

GARVER

RECORD OF DECISION

Three Rivers Ranger District
Kootenai National Forest
June 2003



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GARVER PROJECT

Record of Decision

I. INTRODUCTION

The Garver project area is approximately 43,096 acres and includes the West Fork Yaak River, Pete Creek, Lap Creek, Waper Creek, and Mud Creek, as well as several small drainages that are tributaries to the Yaak River. The Canadian border forms the northern boundary of this project; the eastern boundary of Pete Creek watershed forms the western edge, Yaak River the southern, and Northeast Yaak subunit the eastern boundary. The West Fork Yaak Inventoried Roadless Area (IRA #694) is located along the north and western border of this project area.

Several of the streams in the project area were listed by the State of Montana as Water Quality Limited Segments (WQLS) on the state's 1996 and/or 2000 lists, including the West Fork Yaak River, Slim, Hensley, Lap, and Pete Creeks. These streams are currently being assessed for possible preparation of TMDLs (Total Maximum Daily Load) by the U.S. EPA. This assessment is scheduled for completion by December 31, 2004. (See ROD Appendix 1-18 for a map display of these drainages.)

The Garver project was developed from a broad scale assessment of the Northwest Yaak planning subunit (Garver Ecosystem Assessment at the Watershed Scale, January 2002). The district prioritized recommendations made in that assessment to develop the purpose and need for action in formulating this project. The Garver assessment and other documents referred to in this decision are located in the Garver project file and available upon request.

The purpose and need for this project as presented in the Garver Draft Environmental Impact Statement (DEIS) is to:

- Manage for vegetative conditions that are more suitable to a fire-dependent ecosystem;
- Improve and maintain winter range conditions;
- Improve conditions in old growth habitat;
- Reduce fuels in the Urban Interface;
- Improve growing conditions and long-term management of overstocked sapling/pole stands;
- Improve quality and quantity of grizzly bear habitat; and
- Contribute forest products to the economy.

The Garver DEIS includes four alternatives analyzed in detail and was made available for public comment on October 18, 2002.

This Record of Decision (ROD) provides a summary of the selected alternative and the principle factors I considered in making my decision.

II. SUMMARY OF MY DECISION

I have decided to select Alternative D, as presented in the Garver DEIS, with some minor modifications. I modified Alternative D in order to: 1) respond to public concerns, 2) respond to resource needs identified with more detailed field reconnaissance; and 3) ensure that the timber harvest portion of the project is feasible from an economic and logging systems standpoint.

As compared to Alternative D, Alternative D-Modified does the following:

- Increases grizzly bear core security area in BMU 15 from 47% to 55%.
- Drops Unit 1 to protect RHCAs and reduce edge effects to old growth. Unit 1 is in the French Cr. drainage, a third order tributary to the West Fork Yaak River. The West Fork Yaak River is listed as a WQLS waterbody.
- Drops the treatment of Unit 17, which provides old growth habitat.
- Drops regeneration Units 33a and 33b, reduces the length of temporary road by half in Unit 33, and increases protection measures for equipment in Units 33. These units were of concern due to wet areas and the existence of adjacent populations of noxious weeds. These units are located within the West Fork Yaak River drainage, a WQLS waterbody.
- Drops Unit 24 and reduces the size of Units 5, 27, 34, and 35 to avoid potential effects to riparian and wet areas. The selected alternative also drops the need for opening Road 5840A to access Unit 5 which was of public concern due to possible increased fishing pressure. These units are located within the West Fork Yaak River drainage, a WQLS waterbody.
- Drops Unit 6 due to concerns that stream flows could be increased in that watershed. This unit is located within the West Fork Yaak River drainage, a WQLS waterbody.
- More site-specifically identifies weed treatments to reduce the potential for weed spread caused by activities. The ROD Appendix 2 Design Features specifically targets Units 4, 33, 34, and 35 for treatment and monitoring for further spraying. These units were of particular concern in public comments. The 5840 road system, which is being placed in grizzly bear core habitat post project and was of concern to the public for weed spread, will also be monitored and sprayed prior to closure.
- Reduces the size of Mud Creek Units 13, 14, and 15.

Other adjustments were made to Alternative D, such as reducing the size and shape of harvest units, to address resource concerns and/or to ensure economic and logging systems feasibility. These changes are documented in ROD Appendix 5. It is the decision maker's determination that the access management changes and the other changes to Alternative D documented in ROD Appendix 5, are minor, and it is sufficient and appropriate to file the DEIS with this Chapter 4 and Errata as the final documentation for this project (40 CFR 1503.4(c)).

ALTERNATIVE D-MODIFIED

With this ROD I am authorizing the following activities to meet the purpose and need for action (see Section VIII and Appendices 1, 2, and 4 for more detailed information on the proposed activities):

- Intermediate tree harvest treatments on approximately 1,508 acres to create a more open forest structure, promote fire-adapted species, retain large overstory structure, reduce fuels in the urban interface, and reduce vulnerability to uncharacteristic fires, insects, and disease. Stand replacement harvest and supplemental conifer planting will occur in areas with high insect and disease levels or where it is desirable to promote a more diverse species mix (approximately 236 acres). No new permanent roads will be built. Less than 1 mile of temporary road will be constructed to accomplish this harvest and obliterated following activities. This harvest will contribute 12.5 MMBF (30.5 CCF) of wood products to the economy. Activity fuels will be treated primarily with excavator piling and yarding tops. Best Management Practices will be applied to haul roads in the West Fork Yaak River watershed. Roads used for haul in other watersheds may also receive BMP work, depending on the amount of funds generated from the timber sales. Road maintenance work such as blading and brushing will be implemented as necessary on the approximately 50 miles of haul road.
- Mechanical fuels reduction treatments on approximately 328 acres in the wildland/urban interface.
- Maintenance burning on approximately 818 acres to reintroduce fire to the ecosystem, promote healthy conifer and shrub growth, reduce fuels, and in some areas promote old growth characteristics. Approximately 234 acres of this burning is located in the West Yaak Inventoried Roadless Area (IRA #694). Another estimated 228 acres of the proposed maintenance burning is in designated as old growth.
- Non-commercial thinning on approximately 900 acres to improve conditions for selected trees.
- Approximately 100 acres of shrub planting in the Hensley Hill and Rausch Point winter range units to improve big game forage.
- An increase in Grizzly Bear Core security area in BMU 15 from 47% to 55% by earth berming several road segments, including the Lick Mtn. Road (Rd. 5835) at the jct. of Hwy 92 at the start of harvest operations, and the Benefield Rd. (Rd. 5840) at the jct. with the West Fork Yaak River Rd. (#276) after post-harvest activities are accomplished. To offset the Benefield Rd. closure, the gate on the Garver Mtn. Rd. #5857 would be opened to the Obermeyer Trail #33 trailhead. The Hensley Cr. Rd. #5856 will remain open to the public to the F spur during and post project (no change from current situation). (See ROD Appendix 4 for a display of changes in public access).
- Design features and mitigations to protect resource values (see ROD Appendix 2).

III. OVERVIEW OF OUR ANALYSIS AND DECISION PROCESS

National Forest planning takes place at several levels: national, regional, forest, and project levels. The Garver EIS is a project-level analysis; its scope is confined to addressing the major issues and possible environmental consequences of the project. It does not attempt to address decisions made at higher levels. It does, however, implement direction provided at those higher levels. The decision I am making here does not preclude the need for future decisions to help meet the desired conditions in the project area.

The Kootenai Forest Plan (USDA 1987) provides the primary management direction for my decision. The Kootenai Forest Plan prescribes goals and management standards for the Kootenai National Forest as a whole and for 23 subdivisions of the Forest referred to as Management Areas. In general, the goals and standards of the Forest Plan require me to balance a variety of resources and interests in managing these lands (e.g. maintaining or enhancing wildlife and fisheries habitat and providing a sustained yield of timber).

Specific Management Area (MA) direction from the Forest Plan further guides project development and location of activities in different areas. MAs affected by this project are described in the DEIS on pages 1-8 and 1-9 and displayed on DEIS Map M-3. The treatment summaries in ROD Appendix 1 includes the MAs within each harvest and natural fuels treatment unit. The Forest Plan provides MA-specific goals and standards on pages III-43 through III-118.

The National Fire Plan also provides direction for management of National Forest management. This project specifically addresses one of the key points of the National Fire Plan, which is to reduce hazardous fuels.

I also considered information such as is presented in the Northern Region Overview and the FEIS Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones, 2002 (see DEIS Chapter 1, Purpose and Need).

IV. PURPOSE AND NEED FOR ACTION

A number of specific resource and vegetative conditions that do not meet long-term management objectives were identified in a broad scale assessment of the Northwest Yaak planning subunit and utilized in developing the purpose and need for the Garver project. The Purpose and Need for the activities in this decision is to:

- **Manage for vegetative conditions that are more suitable to a fire-dependent ecosystem.**
 - 1) There is a need to address some undesirable trends in the current forest dynamics and manage for vegetative conditions that are more suitable to a fire-dependent ecosystem and, in the long term, encourage more resilient and sustainable forest conditions. In some cases this means thinning trees to reduce forest, promote a trend toward a more open-grown forest structure with a greater proportion of large fire-adapted species, and reduce vulnerability to uncharacteristic fires and Douglas-fir bark beetle.
 - 2) In other cases, portions of stands would be replaced where the long-term health is at risk due to conditions created by exclusion of fire-maintained processes, uncharacteristic levels of dwarf mistletoe and/or blister rust fungal disease, and generally poor tree health.

- 3) Re-introduce fire to promote ecosystem maintenance, reduce fuels, and promote healthy forest conditions. In some cases, mechanical fuels treatment would be the first step in reducing fuels, with prescribed burning being done in subsequent years.

- **Improve and maintain winter range conditions.**

There is a need to improve the winter range forage base for big game species such as deer, elk, and moose. The existing cover:forage ratio is 88:12. The recommended numbers for white-tailed deer are 70:30. Recommendations for elk/mule deer management are to maintain at least 60% cover on winter range and 60-70% cover on summer range. It is expected that reductions in crown cover through intermediate harvest and small openings created by regeneration harvest will create more favorable growing space for understory vegetation while maintaining adequate cover. It is also desirable to create habitat conditions that include a varied stand structure capable of providing snow-intercept functions during winter months.

- **Improve conditions in old growth habitat.**

Some of the drier habitat sites which have been designated as old growth management areas (MA-13) have not experienced wildfire for many years due to fire suppression. There is a need to reduce fuels and periodically underburn these areas to maintain the old growth character.

- **Reduce fuels in the urban interface.**

In the wildland/urban interface there is a need to maintain an environment which provides for protection of private lands and firefighter and public safety. Many of these sites would also have historically received frequent low-intensity underburns. By thinning, piling, and/or burning vegetation, the risk of crown fire in these areas can be reduced, allowing for safer protection of private lands. The community of Yaak, Montana, is listed in the *Urban Wildland Interface Communities within the Vicinity of Federal Lands that are at High Risk from Wildfire*, Federal Register, August 17, 2001.

Forest Plan Goal #17 calls for using prescribed fire to simulate natural ecological processes, prevent excessive natural and activity fuel buildups, create habitat diversity for wildlife, reduce suppression costs, and maintain ecosystems.

The National Fire Plan also provides direction for urban interface treatments. One of the key points of the National Fire Plan is:

Hazardous fuel reduction—assign highest priority for hazardous fuels reduction to communities at risk, readily accessible municipal watersheds, threatened and endangered species habitat, and other important local features, where conditions favor uncharacteristically intense fires.

- **Improve growing conditions and long-term management of overstocked sapling/pole stands.**

There is a need to thin young, overstocked stands created by past regeneration harvest and wildfires in order to improve growing conditions, maintain species and structural diversity, and improve forest health. These stands can provide varied management options in the future as stand characteristics are maintained or enhanced to promote specific habitat or resource objectives. The Northern Region Overview recommends that thinning in western larch and ponderosa pine stands be

considered a high priority in the future (Northern Region Overview Detailed Report; USDA October, 1998, pages 24, 26).

- **Improve quality and quantity of grizzly bear habitat.**

Based on new information in the FEIS Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones, 2002, and the U.S. Fish and Wildlife Service (Kasworm, et. al., 2002), the Three Rivers Ranger District has a unique opportunity to improve and increase the quality and quantity of core habitat for grizzly bears. The FEIS recommends that core area be increased in Bear Management Unit (BMU) 15 to 55%. This BMU currently has a core habitat of 47%. BMU 15 includes the Yaak River Highway from Pete Creek to Blacktail Creek, thus the BMU includes the private land along the river and the highway. Some of the modeled core habitat is adjacent to private land. This situation increases the risk of bears becoming nuisances around subdivisions and individual homes, and ultimately increases mortality risk. The quality of habitat for bears in this area has been preliminarily determined to be low, based on the mortality risk associated with its location (Kasworm personal communication 2002). In the northernmost part of the BMU there is a balance of spring, summer, and fall high quality habitat. There is a need to adjust core habitat boundaries to improve the quality of core habitat and reduce the possibility of conflicts between bears and humans.

- **Contribute forest products to the economy.**

There is a need to supply forest products from National Forest lands to contribute to the support of that segment of the local and regional economy dependent on timber products.

One of the objectives of the Kootenai Forest Plan is to provide a sustained yield of timber volume responsive to national and regional needs, scheduled to encourage a stable base of economic growth in the growth in the dependent geographical area. Forest Plan Management Area goals also call for a programmed yield of timber (Forest Plan, Volume 1). The Northern Region Overview (USDA April, 1999) finds that the Northwest Zone, including the Kootenai National Forest, "holds the greatest opportunity for vegetation treatments and restoration with timber sales. From a social and economic standpoint, using timber harvest for ecological restoration would be of benefit to the many communities which still have a strong economic dependency, more so than other zones in the region."

V. PUBLIC INVOLVEMENT

Proposed Action Development

In August of 2001 the Three Rivers Ranger District evaluated the Northwest Yaak Subunit for potential management opportunities. The ID team requested input during the assessment phase from persons interested in the area, such as those who commented on a previous Northwest Yaak analysis and those asking to be notified of projects in the upper Yaak valley. A display ad soliciting information was published in the Libby *Western News*. Twenty comment letters were received. Comments from the 1998 Northwest Yaak assessment were also reviewed and reflected similar desires for management. (See landscape assessment section of the project file for more information.) Those opportunities that were feasible to implement within the next 10 years and required a new environmental analysis and decision were brought forward into the Proposed Action for the Garver project.

Proposed Action Scoping

Following the subunit assessment, the district developed a Proposed Action for the project area. Site-specific public comments on the proposal were requested in April of 2002 through publication in the *Federal Register* and public scoping notices in the Kalispell, Montana, *Daily Inter Lake*; and the Libby, Montana, *Western News*. A notice was also mailed to those who responded to the landscape assessment inquiry and those on the district mailing list for planning projects in the upper Yaak valley area (209 recipients); twenty comment letters were received.

Open Houses

The district held an open house to explain the status of the project on June 20, 2002, at the Upper Yaak Work Center. Twelve people attended. No new issues surfaced.

Project Field Trips and Meetings

On July 18, 2002, the district conducted a field trip to the West Fork Yaak River area at the request of the U.S. Environmental Protection Agency (EPA) to discuss water quality concerns in that area. Representatives from the Montana Department of Environmental Quality (MDEQ) and the Yaak Valley Forest Council also attended. (See project file for EPA field trip notes.)

At the request of the Yaak Valley Forest Council, the ID Team met with council members on several occasions to discuss treatments and concerns. (See public involvement section of the project file for notes on meetings or field trips that occurred on April 30, 2002, May 3, 2002, and on August 29, 2002).

Public Comments on Draft EIS

On October 16, 2002, the DEIS was mailed to all project participants and required agencies and letters. Legal ads appeared in the *Western News* and *Daily Inter Lake*. On October 18, 2002, a Notice of Availability of the Garver DEIS was published in the *Federal Register*. Eighteen comment letters were received.

Comments on the DEIS are displayed in the FEIS, Chapter 4, along with agency responses. The comments did not disclose any new issues or a need for substantial new analysis. However, responses to the DEIS did lead to refined analysis which is reflected in the FEIS, Chapter 4. Therefore, I have determined that it is sufficient and appropriate to re-issue the Draft EIS with the FEIS, Chapter 4, containing responses to DEIS comments as the final documentation for the Garver project and refined analysis based on DEIS comments [40 CFR 1503.4 (c)].

Public Comments on Proposal to raise Core from 53% to 55%

As explained in the Garver FEIS, Chapter 4, Section II, letters were mailed to Yaak residents and landowners and others interested in the management of federal lands in the Yaak Valley, requesting comments on a proposal to adjust motorized access so that grizzly bear core could be increased from the previously proposed 53% to 55%. Thirty comment letters were received. These letters are located in the project file. Based on public comments, I am increasing grizzly bear core in BMU 15 to 55% with this decision (see ROD Section VIII, #4). In making this decision I attempted to balance the security needs of the grizzly bear with the public's desire for motorized access opportunities.

Confederated Salish and Kootenai Tribes

The concerns of the Kootenai and Salish tribes were solicited through project scoping. In addition, the Confederated Salish and Kootenai Tribe has provided a tribal liaison to work in partnership with the Kootenai National Forest to review project proposals and provide tribal input. No concerns regarding this project were expressed by tribal governments.

U. S. Fish and Wildlife Service

Modifications, related to grizzly bear core, to Alternative D are the result of discussions with Wayne Kasworm, USFWS grizzly bear biologist for the Cabinet-Yaak Grizzly Bear Recovery Zone. Mr. Kasworm was consulted during initial project development regarding grizzly bear habitat improvement in the Garver project area and following DEIS comments in regard to increasing grizzly bear core from 53% to 55% (see Wildlife References section of the project file).

A biological assessment was sent to USFWS for determination of concurrence on February 4, 2003. Through informal consultation the USFWS concurred that the proposed project **may affect, but is not likely to adversely affect the threatened gray wolf or the threatened grizzly bear.**

Through formal consultation the USFWS issued a biological opinion that the Garver project entirely complies with the guidance of the LCAS and that this project is **not likely to jeopardize the continued existence of the Canada lynx.** No terms and conditions were deemed necessary since no incidental take is expected.

US Environmental Protection Agency and Montana Department of Environmental Quality

As discussed above, on July 18, 2002, representatives from the Montana Office of the Environmental Protection Agency (EPA) and the Montana Department of Environmental Quality participated in a field trip to the Garver project area. Steve Potts from the EPA submitted a trip report, which is located in the public involvement section of the project file. The trip report (PF Doc. 68) states "Water quality issues on the Garver EIS do not appear to be as significant as previously believed. It appears as if the Garver EIS project is addressing such issues appropriately." The EPA's DEIS comments (FEIS Chapter 4, Letter #18) conclude, "While we have some environmental concerns associated with tractor logging and road construction with the proposed project with 1,259 acres tractor harvests in watersheds of 303(d) listed streams (West Fork Yaak River), and with minimal aquatic monitoring, our level of environmental concern is low. The alternatives appear to be planned and designed to minimize adverse impacts." (See FEIS pg. 4-64.)

The Montana Department of Environment's comments are included in the Garver FEIS Chapter 4, Letter #17.

Involvement of Other Agencies

Montana Department of Fish, Wildlife and Parks (MFWP) wildlife biologist Jerry Brown was consulted regarding big game in the project area Brown (see Wildlife References section of the project file) and Mike Hensler, fisheries biologist with MFWP was consulted regarding fisheries in the Garver area.

VI. MAJOR ISSUES

Internal and external scoping comments on the Proposed Action (Alternative B) revealed issues representing unresolved conflict. The following major issues were used to develop alternatives to the Proposed Action.

Issue #1 – Regeneration Harvest: Some public commentors expressed concerns with the size, location and/or appropriateness of some proposed regeneration harvest units. Many of these commentors felt that areas proposed for regeneration harvest are in a healthy condition and stand replacement is not warranted. There were also concerns that regeneration harvest in wet habitat conditions could adversely affect water quality, water yield, and beneficial uses.

Issue #2 – Old Growth: There are two components to this issue:

1) A commentor pointed out that the habitat in Unit 54 could provide higher quality replacement old growth than what is presently designated in the Hensley Face area. Members of the Garver ID team agreed that a redelineation of the MA-13 in Compartment 17 (Hensley Hill) could provide better quality habitat for replacement old growth designation.

2) Under the Proposed Action the habitat in Units 11, 12, and part of 17 meet the Forest's criteria for old growth. This area has not been designated as old growth since this compartment (Compartment 22, Lick Mountain), has enough old growth to meet Forest Plan Standards. However, these stands in Compartment 22 have been identified as habitat that could have potential for old growth management designation, if needed in the event of any losses in the currently designated old growth management areas from natural events, such as stand replacing wildfires. Therefore, treatment in units 11, 12, and 17 will not occur in the selected alternative. The desire for retention of old growth habitat has been expressed in public comments on district projects in the past.

Other Concerns

There were several public concerns that were not considered major issues for alternative development because they were resolved through project design. These concerns included: 1) Provide small sales for local operators, 2) Maintain water quality and fisheries in West Fork Yaak, and 3) Prevent spread of noxious weeds. (See DEIS pgs. 2-3 through 2-4 and the scoping comments in the project file for more information on these concerns.) Appendix 2 describes the features developed to protect water quality and fisheries and to reduce the spread of noxious weeds. Opportunities for small timber sales and fuels reduction contracts have been identified for this project.

VII. DESCRIPTION OF ALTERNATIVES

The alternative development process is discussed in the DEIS on pgs. 2-1 thru 2-22. The following information provides a summary of the alternatives given detailed study.

ALTERNATIVES GIVEN DETAILED STUDY

ALTERNATIVE A - NO ACTION

The National Environmental Policy Act (NEPA) requires that an EIS include a "no action" alternative to serve as a baseline to compare action alternatives. The no action alternative is based on the premise that ecosystems change, even in the absence of active management. It is essentially a "status quo" strategy that allows current activities and policies, such as recreation administration, road maintenance and fire suppression to continue. It proposes no actions that are contained in the action alternatives described below. This alternative provides a baseline for comparison of environmental consequences of the other alternatives to the existing condition (36 CFR 1502.14) and is a management option that could be selected by the Responsible Official.

ALTERNATIVE B – PROPOSED ACTION

Intent: Alternative B was designed to **meet the purpose and need** for this project.

Alternative B would implement the following activities (see DEIS map M-4):

- Intermediate tree harvest treatments on approximately 2,065 acres to create a more open forest structure, promote fire-adapted species, retain large overstory structure, reduce fuels in the urban interface, and reduce vulnerability to uncharacteristic fires, insects, and disease. Stand replacement harvest, followed by conifer or shrub planting in some areas, would occur on approximately 632 acres with high insect and disease levels or where it is desirable to promote a more diverse species mix. This harvest would contribute approximately 17.3 MMBF (42,129 CCF) of wood products to the economy. Activity fuels would be treated primarily with excavator piling and yarding tops. Best Management Practices would be applied to haul roads in the West Fork Yaak River watershed. Roads used for haul in other watersheds may also receive BMP work, depending on the amount of funds generated from the timber sales. Approximately .97 miles of temporary road would be built to access units and would be recontoured after use. Road maintenance work such as blading and brushing will be implemented as necessary on approximately 50 miles of haul road.
- Approximately 310 acres of mechanical fuels reduction treatments in the wildland/urban interface.
 - Approximately 874 acres of maintenance burning to reintroduce fire to the ecosystem, promote healthy conifer and shrub growth, reduce fuels, and in some areas promote old growth characteristics. The 234-acre Dusty Peak maintenance burn is located in the West Fork Yaak IRA #694. Another estimated 303 acres of the proposed maintenance burning is in designated as old growth.
- Non-commercial thinning of approximately 900 acres to improve conditions for selected trees.
- Approximately 100 acres of shrub planting in the Hensley Hill and Rausch Point winter range units to improve big game forage.
- An increase in Grizzly Bear Core security area in BMU 15 from 47% to 53% by earth berming several road segments that are currently restricted with a gate.
- Design features and mitigations to protect resource values.

ALTERNATIVE C

Intent: Alternative C was designed to **address Issue #1, Regeneration Harvest.**

This alternative was designed to address Issue #1 regarding public concerns with regeneration harvest, particularly in wet habitat areas. Also, the size, shape, and silvicultural treatment is adjusted for many units in this alternative based on further field verification of logging system feasibility and treatment goals.

Alternative C would implement the following activities (see DEIS map M-5).

- Intermediate tree harvest treatments on approximately 1,828 acres. Stand replacement harvest, followed by conifer or shrub planting in some areas, would occur on approximately 454. This harvest would contribute approximately 14.4 MMBF (35,021 CCF) of wood products to the economy. Activity fuels would be treated primarily with excavator piling and yarding tops. Best Management Practices would be applied to haul roads in the West Fork Yaak River watershed. Roads used for haul in other watersheds may also receive BMP work, depending on the amount of funds generated from the timber sales. Approximately .97 miles of temporary road would be built to access units and would be recontoured after use. Road maintenance work such as blading and brushing will be implemented as necessary on approximately 50 miles of haul road.
- Approximately 318 acres of mechanical fuels reduction treatments in the wildland/urban interface.
- Approximately 883 acres of maintenance burning, including the 234-acre Dusty Peak maintenance burn located in the West Fork Yaak IRA #694. Another estimated 303 acres of the proposed maintenance burning is in designated as old growth.
- Approximately 100 acres of shrub planting in the Hensley Hill and Rausch Point winter range units to improve big game forage.
- Non-commercial thinning of approximately 900 acres to improve conditions for selected trees.
- An increase in Grizzly Bear Core security area in BMU 15 from 47% to 53%.
- Design features and mitigations to protect resource values.

ALTERNATIVE D – THE PREFERRED ALTERNATIVE IN THE DEIS

Intent: Alternative D shares the intent and many of the specific features of Alternative C, which **addresses Issue #1, Regeneration Harvest**, but in addition was developed to **address Issue #2, Old Growth.**

Alternative D would implement the following activities (see map M-6).

- Intermediate tree harvest treatments on approximately 1,829. Stand replacement harvest, followed by conifer or shrub planting in some areas, would occur on approximately 317 acres. This harvest would contribute approximately 13.8 MMBF (33,721 CCF) of wood products to the economy. Activity fuels would be treated primarily with excavator piling and yarding tops. Best Management Practices would be applied to haul roads in the West Fork Yaak River watershed. Roads used for haul in other watersheds may also receive BMP work, depending on the amount of funds generated from the timber sales. Approximately .97 miles of temporary road would be built to access units and would be recontoured after use. Road maintenance work such as blading and brushing will be implemented as necessary on approximately 50 miles of haul road.

- Approximately 928 acres of mechanical fuels reduction treatments in the wildland/urban interface.
- Approximately 818 acres of maintenance burning, including the 234-acre Dusty Peak maintenance burn located in the West Fork Yaak IRA #694. Another estimated 228 acres of the proposed maintenance burning is in designated as old growth.
- Non-commercial thinning of approximately 900 acres to improve conditions for selected trees.
- Approximately 100 acres of shrub planting in the Hensley Hill and Rausch Point winter range units to improve big game forage.
- An increase in Grizzly Bear Core security area in BMU 15 from 47% to 53%.
- Design features and mitigations to protect resource values.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

The following alternatives suggested in scoping comments were considered, but eliminated from further study (see DEIS pg. 2-4 through 2-5):

Mechanical Treatments in Wet or Rocky Areas: In the original Proposed Action, which was scoped with the public in April 2001, Units E, 37, 38, and 39 were proposed for fuels or harvest treatment. Adjacent landowners and other residents pointed out that all or portions of these areas were very wet and that they were concerned about soil and other impacts from mechanical treatment of these areas. During field reconnaissance of the proposed action, the ID Team confirmed that much or all of these units were within areas that would have been avoided as Riparian Habitat Conservation Area (RHCA) buffers or were too steep and rocky to treat. Therefore, Units E, 37, 39, and a portion of Unit 38 were dropped from treatment consideration in all action alternatives.

Alternative Roads Bermed to Create Core: During public scoping, the Waper Ridge Road (Rd. 5873), the Koo Koo Road (Rd. 757), as well as the Lick Mtn. Road (Rd. 5835) were presented as possible options for improving grizzly bear core area. The amount of core area created by berming each of these roads was similar and would be an improvement above the existing condition of 47%. In a review of the few site-specific public comments received on these roads, there was no consensus on which road to berm. After a review of the comments and the resource effects, it was decided that the Waper Ridge Road and the Koo Koo Road would be dropped from further consideration as roads to be bermed to create grizzly bear core. As compared to the other two roads, the Lick Mtn. Road has been closed to public travel the longest so berming would have the least impact on public use. Although there is an ongoing need for vegetation management in the area, it has the least total area of noxious weeds, the least amount of road surface investment, and the least number of stream crossings with potential for watershed problems to develop as compared to the Waper Ridge and Koo Koo roads.

Watershed Restoration Alternative: One organization requested a water quality alternative that would bring forward recommendations from the aquatics portion of the landscape assessment such as: 1) working with state and local groups to preserve and enhance fish populations through activities such as stocking programs and fishing regulation changes, 2) fish sampling, 3) establishing monitoring stations, 4) working with Canada to improve conditions in that portion of the West Fork Yaak River, and 5) replacing the Lap Cr. culvert on the Yaak 92 highway which is under county jurisdiction (see project file scoping comment letter #11). While the district intends to develop these working relationships and projects, these activities can be implemented without the level of environmental analysis required in an environmental impact statement so were not brought forward as part of this project

proposal. The assessment phase did not reveal a critical need for watershed rehabilitation projects in the Garver project, so watershed rehabilitation was not brought forward as a purpose and need for action at this time.

Another organization requested an alternative that “precludes all road construction and logging and instead focuses on watershed restoration via road obliteration and sediment source reduction on remaining roads.” (See project file scoping comment letter #17.) Such an alternative which does not include harvest would not meet the purpose and need to reduce fuels in the urban interface, restore vegetative conditions suitable to a fire-dependent ecosystem, improve conditions in old growth and big game habitat, reduce tree densities, implement Best Management Practices (BMP) work funded through timber sale receipts, or provide timber for the wood products market. The harvest treatments designed to improve forage for wildlife would not occur. Also, as explained in the previous paragraph, the assessment phase did not reveal a critical need for road obliteration projects in this area at this time. For these reasons, a proposal of this type was not given detailed study.

Tractor Harvest in Unit 52: An alternative was suggested that Unit 52 be tractor logged rather than harvested by helicopter as proposed (see project file scoping comment letter #2). While the slopes are conducive to tractor logging, access would need to be obtained through agreement with private property owners. Since this approval was not obtained at the time of this documentation, the unit was analyzed for helicopter harvest. If the purchaser is able to negotiate access, the ID team will review the unit for effects from tractor harvest.

No Harvest in Units between Mud Creek and Sink Creek to Protect the Grizzly Bear: In public scoping comments a concern was noted that the roads in that area, including #5838 and #5839 are growing over and haven’t been used for motorized access in a long time and the area appears to provide good forage and security (see public scoping comment letter #11). This alternative was not brought forward with detailed analysis for the following reasons: Road 5838 would not be opened for this project. Units 21 and 22 in this area are dropped in Alternatives C and D. The harvest in this area would be by helicopter; Road 5839 would be opened to access a landing and would be earth bermed following activities to create grizzly bear core area (see DEIS Appendix E). Core is being adjusted in this project during and post project to provide better habitat for grizzly bears. Existing project core is 47%. During project core would be 50%, and post project core would be 53%. While there may be some short-term displacement in this area during harvest, the harvest between Mud Cr and Sink Cr. (Units 13-21) would produce more open growing conditions encouraging increased berry and forage production which would benefit the bear once post project core is established (see Chapter 3, Wildlife, grizzly bear analysis).

VIII. SPECIFICS OF THE SELECTED ALTERNATIVE ALTERNATIVE D-MODIFIED

I have decided to implement Alternative D-Modified. My decision modifies DEIS Alternative D by incorporating the changes detailed in Appendix 5 of this ROD. These modifications include increasing grizzly bear core security area in BMU 15 from 53% as presented in Alternative D, to 55% in Alternative D-Modified. Other changes were made to Alternative D-Modified as summarized in ROD Section II, in response to public concerns for water quality, noxious weed spread, old growth habitat, and to further reduce potential resource effects. Adjustments were also made to Alternative D, such as reducing the size and shape of harvest units, to respond to changes identified through more detailed field reconnaissance (see ROD Appendix 5).

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Following my review of the Interdisciplinary Team's assessment of Alternative D-Modified, I have determined that the changes are minor and are within the scope and context of the environmental effects disclosed in the DEIS, Biological Assessments, Biological Evaluation, and supporting documentation (documentation of this assessment is located in the Project File).

A map of the selected alternative and a summary of treatments is located in Appendix 1 of this Record of Decision. Alternative D-Modified is the environmentally preferred alternative since it best meets the purpose and need while addressing public concerns (see Section IX, Principal Factors Considered in My Decision).

The following is my decision for various management practices contained in Alternative D with modifications:

- 1. Whether to implement timber management activities (silvicultural prescriptions, logging methods, slash treatment, reforestation), including mitigation measures and design features to protect resources, and if so, the site-specific location of these activities and practices.**

Intermediate tree harvest treatments will be implemented on approximately 1,508 acres to create a more open forest structure, promote fire-adapted species, retain large overstory structure, reduce fuels in the urban interface, and reduce vulnerability to uncharacteristic fires, insects, and disease. Stand replacement harvest would occur on approximately 236 acres with high insect and disease levels or where it is desirable to promote a more diverse species mix. ROD Appendix 1 presents a summary of the treatment that will occur in each unit.

Approximately 53% of the proposed harvest units would be harvested utilizing ground-based systems (tractor yarding) since slopes in these areas are relatively flat (less than 35% slope) and road access is available. To protect soils on steep slopes and/or to avoid new permanent road construction, helicopter yarding would be utilized on approximately 40% of the harvested acres. Where road access is available, but slopes are greater than 35% (7% of the harvested acres), a skyline yarding system will be utilized. (See ROD Appendix 1 for a display of the logging system for each unit.)

This harvest would contribute approximately 12.5 MMBF (30.5 CCF) of wood products to the economy.

Activity fuels would be treated primarily with excavator piling and/or yarding tops. (See ROD Appendix 1, Harvest Treatment Summary, for a display of slash treatments for each unit).

Best Management Practices to minimize sediment delivery to streams would be applied to all roads used for timber haul in the West Fork Yaak River watershed. Depending on the amount of funds generated from the timber sales, roads used for haul in other watersheds would also receive BMP work according to the following prioritization scheduled based on potential benefit to fisheries: 1) Pete Creek and Lap Creek; 2) Unnamed face drainages to the Yaak River. The Forest Plan Monitoring Report for FY 2000 finds, "...implementation evaluations met the requirements of acceptable almost 96% of the time. Effectiveness evaluations in FY 2001 met the requirements of acceptable over 94% of the time." (KNF September 2001).

Road maintenance work such as blading and brushing will be implemented as

necessary on approximately 50 miles of haul road.

An analysis of the transportation network within the analysis area was conducted by district resource specialists to determine the most environmental sound and safe transportation network. This analysis is located in the transportation section of the project file. The decision maker determined that the access management activities in this decision are consistent with that analysis.

Approximately .83 miles of temporary road would be built to access units and would be recontoured after use.

Unit 51 access: .28 miles
Unit 33 access: .14 miles
Unit 45 access: .18 miles
Helicopter landing access off 5886B rd: .17 miles
Helicopter landing access for Unit 52: .06 miles

Where regeneration harvest is to be implemented, planting would supplement the natural regeneration anticipated and restore tree species that are presently not sustainable due to fire exclusion, inadequate seed source, etc. Where deer browsing of seedlings is anticipated, netting would be used to minimize animal damage.

Approximately 100 acres of shrub planting in the Hensley Hill and Rausch Point winter range units to improve big game forage habitat. Netting and protective plastic tubing may be utilized to increase the chance for survival of these plants while they are young.

Design features and mitigations to protect resource values, including trails, soils, stream protection, noxious weed reduction, and wildlife habitat are included in this decision (see ROD Appendix 2).

2. Whether to implement natural fuels reduction practices, including mitigation measures and design features to protect resources, and if so, the selection and site-specific location of activities and practices.

There are two elements to this activity. See Natural Fuel Reduction Treatment Summary, and Selected Alternative Map in ROD Appendix 1 and Appendix 2 Design Features for more information on implementing these activities.

- Approximately 328 acres of mechanical fuels reduction treatments in the wildland/urban interface. A variety of treatments may be used to accomplish this treatment, including mechanical thinning of understory trees (using a clipper), hand slashing of the understory, excavator piling, and understory burning. When equipment is used it may become necessary to remove certain trees of commercial size but this would be limited to trees that present a hazard to the operator of the equipment. In all fuels units, the focus will be to remove the excess trees under 7" dbh, and no trees 10" and over would be cut. Trails will be marked in such a way as to avoid the large diameter trees if they are present.
- Approximately 818 acres of maintenance burning to reintroduce fire to the ecosystem, promote healthy conifer and shrub growth, reduce fuels, and in Units I, K, L, and O, promote old growth characteristics. The 234-acre Dusty Peak maintenance burn is located in the West Fork Yaak IRA #694. Maintenance burning activities will occur in the spring or early summer, as weather conditions permit, utilizing helicopter ignition and/or hand crews with drip torches. There will be no ignition in riparian areas. Some slashing of small trees (<10"

dbh) may be necessary to reduce ladder fuels. Approximately 103 acres have been identified within harvest units 46, 53, and 60 that will be considered for maintenance burning within the next five years to maintain ecosystem processes and promote forage for wildlife benefit. Mechanical Fuels Treatment Units F, G, H, J, M, N, and P will be burned approximately 5 years following mechanical treatment (to allow for growth of some fuel to carry a fire) to stimulate browse and maintain more open conditions.

**TABLE 1. MECHANICAL FUEL REDUCTION UNITS
ALTERNATIVE D-MODIFIED**

UNIT #	MA	ACRES
B	11	74
C	11	10
D	11	12
F	17	29
G	17	9
H	11	49
J	11	25
M	11	34
N	11	58
P	11	28
Total	--	328

**TABLE 2. MAINTENANCE BURN UNITS
ALTERNATIVE D-MODIFIED**

UNIT #	MA	ACRES
BURNING TO OCCUR WITHIN NEXT 5 YEARS		
A*	2	234
I	13	35
K	13	124
L	13	0
O	13	69
Subtotal		462
46**	11	31
53**	11	68
60**	11	24
Subtotal		123
Total	--	585
BURNING TO OCCUR 5-10 YEARS FROM NOW		
F	17	29
G	17	9
H	11	49
J	11	26
M	11	34
N	11	58
P	11	28
Total	--	233

*Dusty Peak Burn, located in West Fork Yaak IRA

**Maintenance burning will be considered for these areas after harvest and slash treatment

3. Whether to implement non-commercial thinning activities, and if so, the selection and site-specific location of these activities

Approximately 900 acres of thinning will occur in overstocked sapling-size trees that have been initiated with the past 15 to 25 years. This treatment is intended to reduce tree density and improve the growing conditions of the selected trees by reducing competition for light and nutrients. This treatment would also improve species composition, address potential insect and disease concerns, and generally improve stand health. Please refer to ROD Appendix 1, Alternative D-Modified Map, for locations.

4. Whether road access restrictions or other actions are necessary to meet resource objectives, and if so, to what extent.

Grizzly Bear Core security area in BMU 15 will be increased from 47% to 55% by earth berming several road segments, including the Lick Mtn. Road (Rd. 5835) at the jct. of Hwy 92 at the start of harvest operations, and the Benefield Rd. (Rd. 5840) at the jct. with the West Fork Yaak River Rd. (#276) after post-harvest activities are accomplished.

To maintain a balance of motorized and non-motorized use in the project area, I am moving the gate on the Garver Mtn. Rd. to the Obermeyer Trail #33 trailhead after post-harvest activities are accomplished. The current public motorized access on the Hensley Cr. Rd. #5856 (open to the F spur) will be maintained during and post project. Other access management changes to facilitate project activities while maintaining wildlife habitat and motorized access opportunities are displayed in ROD Appendix 4.

An analysis of the transportation network within the analysis area was conducted by district resource specialists. This analysis is located in the project file. The decision maker determined that the access management activities in this decision are consistent with that analysis.

5. What, if any, specific project monitoring requirements are needed to assure mitigation measures and design features are implemented and effective, or to evaluate success of project objectives.

The monitoring plan in ROD Appendix 3 will be implemented. This plan includes implementation and effectiveness monitoring activities related to design features for water quality, soils, fuels, wildlife, noxious weeds, and silviculture. The implementation and effectiveness of BMPs, including BMPs applied to the West Fork Yaak drainage, will be monitored during and after timber sale activities as displayed in ROD Appendix 3.

IX. PRINCIPLE FACTORS CONSIDERED IN MY DECISION

I have selected Alternative D-Modified, as it is described above, after careful consideration of public comments and the analysis of environmental effects, because it best satisfies the purpose and need for the project, and because it implements Forest Plan and National Fire Plan direction.

Benefits of Implementing the Action Alternatives

All the Action Alternatives, B, C, D, and D-Modified satisfy the decision criteria and implementation of any of them would result in many benefits as follows:

- A reduction in tree density through timber harvest to encourage growth in fire-adapted species. This reduction in tree density would also result in stands which are less vulnerable to uncharacteristic fires and the Douglas-fir beetle.
- Restoration of western larch and western white pine in portions of stands where the long-term health is questionable to conditions created by exclusion of fire, uncharacteristic levels of dwarf mistletoe and/or blister rust fungal disease, and generally poor tree health.

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- Reduction of fuels to allow for the reintroduction of fire to promote healthy forest conditions, old growth habitat conditions and to protect private lands and public safety.
- Improvement of winter range forage and snow-intercept conditions through reduction in tree densities and creation of a more varied stand structure.
- Non-commercial thinning of overstocked sapling and pole stands
- Improvement in the quality and quantity of grizzly bear core security habitat, based on new scientific information as presented in the the FEIS Forest Plan Amendments for Motorized Access Management within the Selkirk and Cabinet-Yaak Grizzly Bear Recovery Zones, 2002.
- Support of the forest products industry in the area by contributing to the supply of timber

All action alternatives respond in various ways to the purpose and need for action. Since the purpose and need for action responds to Forest Plan goals, objectives, and standards, I used it as an indicator of Forest Plan implementation. The following table displays a comparison of purpose and need objectives by alternative, which helped me evaluate how well the effectiveness of each alternative responds to the Forest Plan.

TABLE 3. COMPARISON OF PURPOSE AND NEED OBJECTIVES BY ALTERNATIVE

Manage for Vegetative Conditions that are More Suitable to a Fire-Dependent Ecosystem	A	B	C	D	D-Modified
Acres thinned to create a more open forest structure, promote fire-adapted species, retain large overstory structure, reduce fuels in the urban interface, and reduce vulnerability to uncharacteristic fires, and insects and disease levels.	0	2,065	1,828	1,829	1,508
Replacement of stands at high insect and disease levels or to restore western larch/white pine cover type utilizing regeneration harvest methods	0	632	454	317	236
Total Acres Treated with Timber Harvest to Meet Project Objectives	0	2,697	2,282	2,146	1,744
Reduce natural fuels and reintroduce fire					
Mechanical fuels reduction	0	310	318	328	328
Maintenance burning over next 10 years	0	874	883	818	818
Improve and Maintain Winter Range Conditions					
Winter Range Cover/Forage Ratios	88:12	86:14	86:14	87:13	87:13
Improve Conditions in Old Growth Habitat					
Acres of fuels reduction and underburning in designated old growth	0	303	303	228	228
Reduce Fuels in the Urban Interface					
Acres of fuel reduction in the urban interface	0	742	691	692	653
Improve Growing Conditions and Long-Term Management of Overstocked Sapling/Pole Stands					
Acres of non-commercial thinning	0	900	900	900	900
Improve Quality and Quantity of Grizzly Bear Habitat					
Percent of BMU 15 in Core Grizzly Bear Habitat post project	47	53	53	53	55
Contribute Forest Products to the Economy					
Timber Sale Volumes (CCF/MMBF)	0	42,129/ 17.3	35,021/ 14.4	33,721/ 13.8	30,500/ 12.5

Why I did not Select the No Action Alternative

There are many reasons why I did not select Alternative A (no action). While in the short-term doing nothing may have less effect than the short-term disturbances associated with the action alternative activities, in the long-term, the consequences of doing “nothing” are potentially far greater. I did not select Alternative A because:

- Trends would continue whereby shade-tolerant species, that are more prone to insects and disease and are less fire-adapted, would continue to replace fire-adapted species and species that are generally less susceptible to insects and diseases.
- Winter range forage conditions would continue to decline. The quality and quantity of grizzly bear core habitat would not be improved.
- The continued build up of fuels and high tree densities would contribute to fires of greater severity that could threaten old growth habitat, private lands, and firefighter and public safety, and increase noxious weed spread.
- No action, in some cases, foregoes an opportunity to promote tree growth and provide a more suitable condition for providing future old growth replacement.
- Far less wood products would be supplied from National Forest lands to contribute to the local and regional economy.

In summary, the no-action alternative does not satisfy the purpose and need for the project and does not implement the Forest Plan direction for this area, which includes improving forest conditions and habitats through management practices. (See DEIS Chapter 3 analysis of Alternative A for more detailed information on the effects of no action).

Why I Selected Alternative D-Modified

I selected Alternative D-Modified over the other action alternatives primarily because it best responds to public concerns while meeting the purpose and need for action and because it implements Forest Plan and National Fire Plan direction.

As compared to Alternative D, Alternative D-Modified further addresses the public's desire for protection of wildlife habitat components and concerns regarding timber harvest. As explained in Section II of this ROD, this alternative:

- Increases grizzly bear core security area in BMU 15 from 47% to 55%.
- Drops Unit 1 to protect RHCAs and reduce edge effects to old growth. Unit 1 is in the French Cr. drainage, a third order tributary to the West Fork Yaak River. The West Fork Yaak River is listed as a WQLS waterbody.
- Drops the treatment of Unit 17, which provides old growth habitat.
- Drops regeneration Units 33a and 33b, reduces the length of temporary road by half in Unit 33, and increases protection measures for equipment in Units 33. These units were of concern due to wet areas and the existence of adjacent populations of noxious weeds. These units are located within the West Fork Yaak River drainage, a WQLS waterbody.
- Drops Unit 24 and reduces the size of Units 5, 27, 34, and 35 to avoid potential effects to riparian and wet areas. The selected alternative also drops the need for opening Road 5840A to access Unit 5 which was of public concern due to possible increased fishing pressure. These units are located within the West Fork Yaak River drainage, a WQLS waterbody.
- Drops Unit 6 due to concerns that stream flows could be increased in that watershed. This unit is located within the West Fork Yaak River drainage, a WQLS waterbody.
- More site-specifically identifies weed treatments to reduce the potential for weed spread caused by activities. The ROD, Appendix 2 Design Features,

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specifically targets Units 4, 33, 34, and 35 for treatment and monitoring for further spraying. These units were of particular concern to the public, as demonstrated by public comments. The 5840 road system (which post project will be within grizzly bear core habitat), was of concern to the public for weed spread and will also be monitored and sprayed prior to closure.

- Reduces the size of Mud Creek Units 13, 14, and 15.

The following table displays a comparison of the issues

TABLE 4. COMPARISON OF ISSUE INDICATORS BY ALTERNATIVE

INDICATOR	ALT A	ALT B	ALT C	ALT D	ALT D MODIFIED
Issue #1 – REGENERATION HARVEST					
Acres of regeneration harvest	0	632	454	317	236
ECAs within drainages with regeneration harvest concerns*					
French Cr.	20	23	22	22	<22**
WfYaak River Trib #2	23	34	30	30	27
Mud Cr.	14	31	29	22	<22**
Sink Cr.	20	33	24	24	<24**
RHCAs protected? (Y/N)	N/A	Y	Y	Y	Y
Beneficial uses protected (Y/N)	N/A	Y	Y	Y	Y
Issue #2 – OLD GROWTH					
Alternative improves the quality of designated replacement old growth (MA-13)? (Y/N)	N	N	N	Y	Y
Acres with potential for old growth management designation dropped from proposed treatment.	N/A	0	0	122	141

*Equivalent Clearcut Area (ECA) is defined as the total area within a drainage that exists in an equivalent clearcut condition in a given year (USDA 1974). As ECA increases, water yield increases, which can cause changes in duration, frequency, timing, and magnitude of streamflows (King 1989). Under Forest Plan Standards ECAs of 25 to 30% are acceptable (see DEIS pg. 3-132 for a further explanation).

**These ECAs were not recalculated, but assumed to be less than those under Alternative D since units are dropped or reduced.

This project also contributes to the hazardous fuels reduction goals of the National Fire Plan as described in Section IV.

In summary, I selected Alternative D-Modified because it implements Forest Plan and National Fire Plan direction, satisfies the purpose and need for the project, and best addresses public desires and concerns for the area.

X. FINDINGS REQUIRED BY LAW, REGULATION, AND AGENCY POLICY

Numerous laws, regulations, and agency directives require that my decision be consistent with their provisions. I have determined that my decision is consistent with all laws, regulations, and agency policy. The following summarizes findings required by major environmental laws:

1. NATIONAL FOREST MANAGEMENT ACT (16 USC 1600 ET SEQ.)

The National Forest Management Act (NFMA) and accompanying regulations require that several specific findings be documented at the project level. These are:

A. Consistency With Forest Plan (16 USC 1604(i))

The Kootenai Forest Land and Resource Management Plan (Forest Plan) establishes management direction for the Kootenai Forest. This management direction is achieved through the establishment of Forest goals and objectives, standards and guidelines, and Management Area goals and accompanying standards and guidelines. Project implementation consistent with this direction is the process by which we move toward the desired condition described by the

Forest Plan. Forest Plan direction provides the sideboards for project planning. In addition, the National Forest Management Act requires that all resource plans are to be consistent with the Forest Plan (16 USC 1604 (i)). The DEIS displays the Forest Plan and Management Area goals and objectives, and the standards and guidelines applicable to the Garver Project Area (DEIS, page 1-9). The alternative development process and the management goals of the alternatives are described in the DEIS Chapter 2, while the environmental consequences of the alternatives in relation to the Forest Plan standards and guidelines are displayed in the DEIS Chapter 3.

B. Suitability for Timber Production

No timber harvest, other than salvage sales or sales to protect other multiple-use values, shall occur on lands not suited for timber production {16 USC 1604(k)}.

Determination that lands are suitable: All acres proposed for harvest in the selected alternative were reviewed by a certified silviculturist and determined to be suitable for timber production and capable of being regenerated within five years of timber harvest (see DEIS page 3-28 through 3-29).

Analysis of current and historical regeneration data for the Project Area supports the conclusion that adequate stocking of the proposed harvest units is assured with site-preparation efforts occurring in a timely manner following harvest (DEIS 3-29).

C. Clearcutting and Even-aged Management

When timber is to be harvested using an even-aged management system, a determination that the system is appropriate to meet the objectives and requirements of the Forest Plan must be made and, where clearcutting is to be used, it must be determined to be the optimum method {16 USC 1604(g)(3)(F)(i)}.

Determination that, where used, clearcutting is the optimum method: I have determined that clearcutting is the optimal method of treatment for Units 15a, 32, 52a, and 56a, in the selected alternative. My determination is based upon the diagnosis found in FEIS Appendix A, and the evaluation of effects found in Chapter 3 of the DEIS.

Determination that even-aged management system is appropriate to meet the objectives and requirements of the Forest Plan: I have determined that prescribing even-aged systems under the selected alternative is appropriate for Units 7, 10, 13a, 14, 14a, 15a, 18, 18a, 27, 27a, 31, 32, 33, 52a, 56a, and 59. My determination is based on the discussion of alternative silvicultural systems and prescriptions and the use of even-aged management found in the diagnosis and the Silviculture Section of the project file.

D. Vegetation Manipulation

All proposals that involve vegetative manipulation of tree cover for any purpose must comply with seven requirements found at 36 CFR 219.27(b). I find that the prescribed management practices shall:

Be best suited to the goals stated in the Forest Plan. These goals are stated in the DEIS within Chapters 1 and 3. Based upon review of pertinent information from the DEIS, ID Team field review, and the Project File, I have determined that the selected alternative is best suited to meet these goals while responding to public concerns.

Assure that technology and knowledge exists to adequately restock lands within 5 years after final harvest. The knowledge and technology currently exists to adequately restock the harvested areas and is documented in the vegetation analysis and Project File.

Not be chosen primarily because they will give the greatest dollar return. The decision to implement the selected alternative is based on a variety of reasons as discussed earlier in this decision, not solely on economics.

Be chosen after considering potential effects on residual trees and adjacent stands. In selection of Alternative D with modifications I did consider the effects on residual trees and adjacent stands as discussed in the DEIS pgs. 3-24 through 3-29. Impacts to the residual trees and adjacent stands were a primary factor in my deliberations with the ID team and in my decision. I considered the impacts of reducing tree density and fuel loadings against the need to provide wildlife habitat and soils and watershed resource protection.

Be selected to avoid permanent impairment of site productivity and to ensure conservation of soil and water resources. The selected alternative will avoid impairment of site productivity. This determination is supported by the disclosures in DEIS pgs. 3-114 – 3-119, and the application of Best Management Practices contained in the Soil and Water Conservation Practices Handbook 2509.22 (USDA Forest Service, 1988) to prevent the loss of soil. Documentation of the effects of the selected alternative to site productivity and soil and water resources are contained in the soils analysis and the Project File.

Be selected to provide the desired effects on water quality and quantity, wildlife and fish habitat, regeneration of desired tree species, forage production, recreation uses, aesthetic values, and other resource yields. The selected alternative provides the desired effect on the above resources. This determination is supported by disclosures in Chapter 3 of the DEIS. The Standards and Guidelines contained in the Forest Plan are designed to provide the desired effects of management practices on the other resource values. Alternative D with modifications meets or exceeds applicable Standards and Guidelines, as noted under "Consistency With Forest Plan" in this section. My consideration of these factors is documented throughout Chapters 2 and 3 of the DEIS and the Project File.

Be practical in terms of transportation and harvesting requirements and total costs of preparation, logging, and administration. Alternative D with modifications is a practical selection. Modifications to the Proposed Action were made to enhance the economic feasibility of the project while protecting the resources as described above. Most of the Garver area is adequately roaded and no new permanent roads were deemed necessary to implement the selected action. This determination is supported by the transportation analysis conducted by district resource specialists for the project area (see transportation section of the project file). The selected action is a practical selection as shown in the DEIS economic analysis and supporting documentation in the project file.

E. Sensitive Species

Federal law and direction applicable to sensitive species include the National Forest Management Act and the Forest Service Manual (2670). The Regional Forester has approved the sensitive species list; those plants and animals for which population viability is a concern. In making my decision, I have reviewed the analysis and projected effects on all sensitive species listed as possibly occurring on the Kootenai National Forest (DEIS, Chapter 3 Wildlife Habitat pgs. 3-63 – 3-77, Fisheries pgs. 3-

98 and FEIS Appendix K-1, and PTES Plants pgs. 3-102 sections). These findings document that this project:

- **May impact individuals but is not likely to cause a trend to federal listing or loss of viability** to the fisher, wolverine, black-backed woodpecker, northern goshawk, boreal toad, flammulated owl or Coeur d'Alene salamander, and would have **no impact** to the harlequin duck.
- **May affect individuals and habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species** to the Westslope Cutthroat Trout and would have **no impact** to the Torrent Sculpin, Burbot, and Interior Redband Trout
- **May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species** to the Botrychium ascendens (Upward-lobed Moonwort) and Botrychium montanum (Mountain moonwort), and will have **no impact** on Carex paupercula (Poor Sedge), Corydalis sempervirens (Pink Corydalis), Heterocodon rariflorum (Western Pearl Flower), Lycopodium dendroideum (Prickly Tree Clubmoss), and Phegopteris connectilis (Beech Fern).

I concur with the findings documented for these species.

2. THE CLEAN WATER ACT AND STATE WATER QUALITY STANDARDS

Beneficial uses of the Garver Project Area include recreation (swimming, boating, and fishing), and maintenance of habitat for cold water fisheries, native macro and micro-invertebrates and associated plant life. The selected alternative is expected to comply with applicable Clean Water Act and Montana State Water Quality standards and the protection of beneficial uses through the application of BMPs and other design features as listed below and in ROD Appendix 2. These beneficial uses in the Garver Project Area will be maintained as a result of the application of general and site-specific Best Management Practices (BMPs) contained in the Soil and Water Conservation Practices Handbook 2509.22 (USDA Forest Service, 1988) as well as other protective design features. These include, but are not limited to: 1) harvest will not occur in RHCA's; in Units 5 and 34 equipment will only be allowed to cross the RHCA at designated crossings that are approved by the district hydrologist. 2) no new specified road construction. Temporary road construction (.83 miles) will utilize Best Management Practices (BMPs) to reduce erosion and will be recontoured following harvest; 3) haul road maintenance will address currently poor road drainage and will be timed during drier months to avoid sediment mobility during rain events; 4) the majority of the harvest is by ground-based logging which is restricted to sustained slopes of 35% or less and measurable effects to peakflows are unlikely due to application of RHCA buffers and BMPs; 38 percent of the harvest is by helicopter; 5) proposed actions are in compliance and will meet INFS standards and guidelines. Specific practices are described in detail in Appendix 25 of the Forest Plan.

As required by the Clean Water Act the State of Montana has published a list of streams and portions of streams where the State has identified water quality concerns. Many of the streams in the upper Yaak River watershed were originally put on this list based on water quality concerns mentioned in Forest Service NEPA documents. Although the State of Montana removed a number of streams from the list between 1996 and 2000, the EPA and State of Montana are now under a Court Order that requires TMDLs for streams on the 1996 list. As a result Lap and Pete Creeks, which were removed from the list between 1996 and 2000, will be reassessed. The target date for reassessment and preparation of TMDLs for all impaired stream segments in the Yaak watershed is December 31, 2004. The

analysis indicates that Alternative D with modifications would not increase water yield to an extent that it would result in sediment from accelerated channel erosion. The analysis also indicates that combined and cumulative effects of Alternative D with modifications would not degrade water quality with respect to sediment in these segments. The State of Montana was notified of this project and sent a copy of the DEIS. Their comments are responded to in Chapter 4 of the FEIS, Ltr. #17.

EPA was mailed a copy of the DEIS, and responded with support for the project purpose and need. The EPA's DEIS comments conclude, "While we have some environmental concerns associated with tractor logging and road construction with the proposed project with 1,259 acres tractor harvests in watersheds of 303(d) listed streams (West Fork Yaak River), and with minimal aquatic monitoring, our environmental concern is low." (See FEIS pg. 4-64.) The alternatives appear to be planned and designed to minimize adverse impacts." Responses to the agency's comments (Ltr. #18) are located in the Response to Comments section of FEIS Chapter 4. On July 18, 2002, at the request of EPA, a field trip was conducted to the Garver area and representatives from the Montana Office of the Environmental Protection Agency (EPA) and the Montana Department of Environmental Quality. Steve Potts from the EPA submitted a trip report, which is located in the public involvement section of the project file. As the trip report (PF Doc. 68) states "Water quality issues on the Garver EIS do not appear to be as significant as previously believed. It appears as if the Garver EIS project is addressing such issues appropriately."

Water quality monitoring (ROD Appendix 3) includes BMP Implementation and Effectiveness Reviews. These steps will document the results of the protective measures employed in this project and serve as ongoing monitoring of their effectiveness in protecting water quality and downstream beneficial uses. As part of the ongoing TMDL assessment for the Yaak River basin, six permanent monitoring reaches will be established in the Garver project area this summer.

3. THE ENDANGERED SPECIES ACT (16 USC 1531 ET. SEQ.)

As required by the Endangered Species Act, Biological Assessments were prepared addressing the potential impacts to threatened or endangered species utilizing the project area. The analyses concluded that this project would have **no effect** on water howellia, Spalding's catchfly, white sturgeon, or bull trout.

A biological assessment was sent to USFWS for determination of concurrence on February 4, 2003. Through informal consultation the USFWS concurred that the proposed project **may affect, but is not likely to adversely affect the threatened gray wolf or the threatened grizzly bear.**

Through formal consultation the USFWS issued a biological opinion that the Garver project entirely complies with the guidance of the LCAS and that this project is **not likely to jeopardize the continued existence of the Canada lynx.** No terms and conditions were deemed necessary since no incidental take is expected.

Modifications, related to grizzly bear core, to Alternative D are the result of discussions with Wayne Kasworm, USFWS grizzly bear biologist for the Cabinet-Yaak Grizzly Bear Recovery Zone. Mr. Kasworm was consulted during initial project development regarding grizzly bear habitat improvement in the Garver project area and following DEIS comments in regard to increasing grizzly bear core from 53% to 55% (see Wildlife References section of the project file).

4. NATIONAL HISTORIC PRESERVATION ACT, AMERICAN INDIAN RELIGIOUS FREEDOM ACT AND NATIVE AMERICAN GRAVE PROTECTION ACT

A project-specific inventory of the activity areas will be conducted prior to implementation. If eligible sites are found within an area of potential effect, the project will be redesigned to avoid the site or measures will be designed to mitigate the effects of the project on the site. Recognizing that the potential exists for unidentified sites to be encountered and disturbed during project activity, contract provision C6.24# will be included in all timber sale contracts. This provision allows the Forest Service to unilaterally modify or cancel a contract to protect cultural resources regardless of when they are identified. This provision would be used if a site were discovered after a harvest operation had begun.

5. GOVERNMENT TO GOVERNMENT RELATIONS

The Forest Service consulted with the Confederated Salish and Kootenai tribes and Kootenai Tribe of Idaho during the analysis process. The intent of consultation has been to remain informed about Tribal concerns regarding AIRFA and other tribal issues. In addition, the Salish (Flathead), Kootenai and Upper Pend d'Oreilles have rights under the Hellgate Treaty of 1855 (July 16, 1855). These rights include the "right of taking fish at all usual and accustomed places, in common with citizens of the Territory, and of erecting temporary buildings for curing; together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land." The federal government has trust responsibilities to Tribes under a government-to-government relationship to insure that the Tribes reserved rights are protected. Consultation with the tribes throughout the project planning helps insure that these trust responsibilities are met.

6. ENVIRONMENTAL JUSTICE

I have considered the effects of this project on low income and minority populations and concluded that this project is consistent with the intent of the Environmental Justice Act of 1994 (EO 12898). Representatives from low income and minority populations were notified of this project through the public participation process and no concerns were received. This project was designed to contribute to the economic well-being of local communities (see ROD Section IV, purpose and need, and DEIS Economics analysis). Resource analysis disclosed no disproportionate effects to low income or minority populations.

7. MIGRATORY BIRD TREATY ACT

On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of federal agencies to protect migratory birds. Upon review of the effects analysis regarding neotropical migratory birds in the DEIS, pg. 3-82, I find that the selected alternative complies with this Executive Order.

8. ADMINISTRATION OF THE FOREST DEVELOPMENT TRANSPORTATION SYSTEM – ROADS POLICY – 36 CFR PART 212 ET AL. (PUBLISHED IN THE FEDERAL REGISTER ON JANUARY 12, 2001)

A roads analysis has been prepared for the Garver analysis area (see Transportation Section of the project file). I have determined that the selected alternative, which includes no new permanent road construction, and the construction of less than 1 mile of temporary road, complies with the Roads Policy.

(See FEIS pg. 4-64.)

9. NATIONAL FIRE PLAN

The proposed action for the Garver project responds to the intent of the National Fire Plan (DEIS, pg. 3-30). I have determined that the selected alternative meets the goals and objectives of the National Fire Plan to: 1) reduce the number of small fires that become large, 2) reduce the threat to life and property from catastrophic wildfire, 3) increase firefighter safety, and 4) restore natural ecological systems to minimize uncharacteristically intense fires.

10. INTERIOR COLUMBIA BASIN PROJECT

In the fall of 1996 scientists associated with the Interior Columbia Basin Ecosystem Management Project released a summary of their integrated assessment of the ecological integrity and the socioeconomic resiliency of the Upper Columbia River Basin. I have determined that the selected alternative appropriately considered this information.

XI. APPEAL PROVISIONS AND IMPLEMENTATION

This decision is subject to appeal pursuant to 36 CFR 215.7. As stated in 36 CFR 215.11, an appeal may be filed by any person or non-Federal organization. A written appeal must be submitted within 45 days after the date of the notice of this decision is published in the *Daily Inter Lake*, Kalispell, Montana. Appeals must be submitted to:

**USDA Forest Service, Northern Region
ATTN: Appeals Deciding Officer (RFO)
P.O. Box 7669
Missoula, MT 59807**

Appeals must meet the content requirements of 36 CFR 215.14. Detailed records of the analysis are available for public review at the Three Rivers Ranger District, 1437 N. Highway 2, Troy, Montana, 59935. For more information contact Kathy Mohar, Garver Team Leader, at the district office (406) 295-4693.

If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 days following the date of appeal disposition.

S/Bob Castaneda

6/18/03

**BOB CASTANEDA
Forest Supervisor**

Date

Garver FEIS
Vegetation Treatment Summary--Alternative D Modified

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
3	59	12	<p>Modify existing conditions to reduce stand density, reduce risk of crown fire, improve stand health, and maintain important non winter wildlife habitat. Other objectives include capturing economic value in mature, blowdown and dead LP. Promote a more open canopy structure of overstory seral species. Create small forage openings in areas with uniform LP.</p> <p>Protect integrity of wet areas, RHCAs, etc</p>	<p>Designate all LP for removal. Also, reduce basal area to an ave of 90-100 focusing on retention of the best WL, DF,ES,WRC and WP from the codominant and dominant crown class. Emphasize retention of overstory relics for snag replacement, structural and genetic diversity.</p> <p>Retain existing snags, snag replacement and down logs at levels specified in silviculture Rx.</p> <p>Stand Improvement, Slash Damaged Saplings, Excavator Pile</p>	<p>Ave 30-40%</p> <p>some small openings due to LP concentration</p>	Tractor
4	44	12	<p>Modify stand in order to maintain healthy forest conditions while improving growth potential of the healthy, more fire adapted and dominant trees.</p> <p>Reduce risk of crown fire through fuels treatment and stand density reduction.</p> <p>Protect RHCAs.</p> <p>Maintain old growth characteristics where they occur.</p>	<p>Remove excess and poor quality trees of all species, striving to achieve a target basal area averaging 90-100 sq.ft/acre.. Most if not all overstory WL, WRC relics hould left as snag replacements, structural and genetic diversity, etc. .</p> <p>Leave the best quality trees and most suitable to the site. Preferred leave species are WL, ES, DF, WRC, WP. Existing functional snags and replacement snags should be left.</p> <p>Stand Improvement, excavator pile</p>	30-40%	Tractor
5	15	11	<p>Modify conditions to reduced clumped nature of the trees within the stand, capture economic value in blowdown and LP, improve species mix and overall stand health, maintain important habitat components for wildlife.</p> <p>Protect integrity of wet areas, RHCAs, etc.</p> <p>Protect West Fork Yaak trail</p>	<p>Species designate LP, WH, WRC, and GF for removal. Thin other species beginning with lower diameter classes, reducing stand density of poor quality and excess trees. Favor retention of healthy, dominant well-formed PP, WL, and DF.</p> <p>Stand Improvement, yard tops</p>	30-40%	Tractor

Treatment Summaries

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UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
7	21	12	<p>Stand replacement to improve long term species and structural diversity in area of mature LP stand and dense mixed conifer in poor health.</p> <p>Recover value in area of declining health.</p> <p>Create forage opening for wildlife. Restore species characteristic of the site</p>	<p>Initiate regeneration harvest through removal of all LP while retaining an average of 10-12 tpa composed of all relic overstory larch and an uneven distribution of the healthy WL, DF, ES (in that order) from the co-dominant crown class (10-14" ave. dbh). Some of the better quality WRC can be left where the preferred species is not available.</p> <p>Leave all existing, functional snags. Snag replacement trees should be left in proximity to other leave trees, if at all possible.</p> <p>Seedtree with Reserves, Slash Damaged and Poor Quality Saplings, Excavator Pile, Wide Plant</p>	75-90%	Tractor
8	25	12	<p>Modify existing conditions to reduce areas of heavy fuels from older dead LP. Reduce stand density improving growth of best trees. Recover value in mature LP at risk to continued beetle-caused mortality.</p> <p>Promote higher quality forage and maintain important wildlife hiding cover.</p> <p>Protect integrity of wet areas, RHCAs, etc.</p>	<p>Species designate the AF, LP and reduce density of poor quality trees, particularly around the healthy WL, DF, ES. Target density ave 80-100 sq.ft of basal area/acre. Thin out clumps, including WL of poor health and crown ratios <30%, poor height to diameter ratios.</p> <p>Stand Improvement, selective slashing, spot pile concentrations of slash</p>	30-40%	Tractor
8A	6	12	<p>Replacement of a very dense, relatively mature stand of uniform WL and LP with poor health, limited growth potential, and very high fuel loadings.</p> <p>Reduce crown fire potential.</p> <p>Provide a means to restore species adapted to the site, managed over time with stocking control, and increased potential for development of larger average tree size .</p> <p>Retain structural diversity</p>	<p>Leave an average of 10-15 tpa composed of all scattered relic overstory larch and an uneven distribution of the best WL, DF, ES, WP (in that order) from the co-dominant crown class. Leave trees are expected to function as a future seed source , snag replacement, and structural diversity.</p> <p>All existing, functional snags (ie: broken tops, cavity nester signs, etc) should be left. Snag replacement trees should be left in proximity to other leave trees, if at all possible.</p> <p>Seedtree with Reserves, slashing, excavator pile, plant</p>	65-75%	Tractor

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
10	24	12	Modify conditions to reduce risk of crown fire in areas of high stand density in LP, with increasing levels of fuels. Recover economic value in the mature LP with expected increasing levels of bark beetle susceptibility. Promote sustainability and improved growth potential of the remaining dominant and co-dominant WL/DF, which enhance the old growth quality of this area.	Designate all LP for removal. Retain all other species irregularly distributed throughout the stand. Stand Improvement, yard tops	25-35%	Tractor
13	31	12	Modify conditions to improve growth of best trees, create conditions for maintenance of fire adapted species, and reduce susceptibility to DF bark beetle. Maintain important wildlife habitat functions and protect integrity of wet areas, RHCAs, etc.	Designate LP for removal. Thin with emphasis on reducing tree density in lower diameter classes and excess or poor quality trees in the co-dominant and intermediate size class. Retain an average basal area of 80-90 sq.ft/acre, with preference of leaving the best WL, DF, ES where appropriate for the site. Stand Improvement, lop and scatter	25-30%	Helicopter
13a	10	12	Initiate regeneration activities in an area that is becoming undestocked due to bark beetle caused mortality in a mature LP stand. Recover economic value in dead, dying and high risk trees while reducing threat of future unplanned wildfire through LP removal	Designate all LP for removal. Mark to leave available PP,WL, DF,ES seedtrees with >25% live crown, good diameter to height ratios and windfirmness. Leave all functional wildlife snags and provide for snag replacement. Approx. 10-15 reserve trees/acre are expected to be left as a seedsource, future snags, and structural diversity. Seedtee Seedcut with Reserves, slash damaged saplings, yard tops, plant openings	40-60%	Helicopter
14 14A	27 13	12	Stand replacement to improve long term species and structural diversity in areas with declining forest health, while maintaining structure, snags, etc. Recover economic value in excess and undesirable trees. Create a short term wildlife forage opening. Provide a mechanism to restore WL and WP, species at risk due to fire exclusion and lack of natural regeneration. Protect integrity of wet areas, RHCAs, etc. Meet Forest Plan standards for opening size and distance to hiding cover.	Initiate regeneration harvest through removal of all LP and excess, poor quality trees especially WRC, H and GF. Mark to retain an average of 8-10 TPA in healthy WL, DF, ES, WP and retain existing snags, snag replacement and down logs at levels specified in silv Rx. Treatment will retain minimum 600 feet to hiding cover. Seedtree with Reserves, excavator pile, plant	90%	Helicopter

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UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
15	23	12	<p>Modify stand conditions to improve growth of best trees, increase component of fire-adapted species, and reduce stand density to enable restoration of fire as an ecosystem process and increase forage potential. Recover value in LP that is mature, dead and/or high risk to continued beetle caused mortality.</p> <p>Protect integrity of wet areas, RHCAs, etc</p>	<p>Designate LP for removal. Also, in clumpy areas, thin out poor quality trees from lower diameter classes and reduce overstory density where appropriate. Some areas are fairly open and LP removal alone may be sufficient treatment.</p> <p>Stand Improvement, spot excavator pile</p>	25-30%	Helicopter
15a	9	12	<p>Stand replacement to improve long term species and structural diversity in areas where fuel loadings are high, forest health conditions have markedly declined and maintenance of seral species is jeopardized.</p> <p>Recover economic value in excess and poor quality trees. Create small forage opening for wildlife.</p> <p>Restore species adapted to site</p>	<p>Initiate regeneration harvest. Mark to leave 5-7 TPA in the best quality WL, WP, DF, WRC, ES according to marking guide criteria. In addition, leave all functional snags and provide for replacement snags.</p> <p>Clearcut with Reserves, excavator pile, plant</p>	90-95%	Helicopter
18 18 A	20 6	11	<p>Stand replacement in a dense, stagnated stand of LP/WL/DF that has increasing fuels. Recover economic value in mature, poor quality LP that continues to be impacted by bark beetles. Retain reserve trees for seed source, site protection, future snag replacement.</p> <p>Reduce threat of crown fire while retaining healthy fire adapted species.</p> <p>Maintain important winter range habitat functions.</p>	<p>Designate LP for removal. Retain an average of 15-25 TPA in healthy WL, DF across the treatment area. Uniform spacing is not required. Leave any relic WL overstory. Leave existing, functional snags, snag replacement and down logs at levels specified</p> <p>Shelterwood Seedcut with Reserves, excavator pile</p>	60-75%	Helicopter Tractor
19 19A 19B 19C 19D	14 82 53 20 10	11	<p>Improve long-term forage potential, fire adaptiveness, and tree health by reducing forest density and creating a more open canopy. Modify stand structure to enable the eventual return of fire as ecosystem process.</p> <p>Maintain important winter range habitat functions.</p>	<p>With a target density averaging 80-90 sq. ft. of basal area, thin from lower diameter emphasizing the retention of the healthy, full crowned WL, DF, ES (other species in microsites). Harvest DF impacted by bark beetles. Leave snags and snag replacement trees.</p> <p>Stand Improvement, yard tops (19,19C,19D), spot pile ((19A), lop and scatter (19B), selective slashing</p>	30-40%	Tractor Tractor Skyline Helicopter Skyline

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
20	5	11	<p>Modify conditions to improve winter range by opening forest canopy, improve growth in best trees, and reduce susceptibility to DF bark beetle. Trend toward more open stand structure and suitability for eventual re-introduction of fire and increased forage potential.</p> <p>Maintain important winter range habitat functions.</p>	<p>Reduce stand basal area in all size classes to an average of 80-90 sq.ft/acre. Re-allocate growth to the best WL/DF dominant and codominant crown class. Remove diseased trees, trees in competition with reserved trees, and focus on areas that are overstocked.</p> <p>Stand Improvement, yard tops</p>	30-40%	Tractor
23	52	11	<p>Modify conditions to reduce the risk of crown fire, reduce stand density and promote a healthy forest condition with reduced vulnerability to DF bark beetle. Maintain the inherent forest structure while improving the growth potential of the healthy, more fire adapted overstory dominants.</p> <p>Manage and maintain for conditions that promote trend towards a more open structured yet multiaged forest with potential for development of large diameter trees</p> <p>Improve the winter range forage base by promoting a more open stand structure, with greater suitability to a fire maintained ecosystem</p> <p>Maintain important winter range habitat functions.</p> <p>Protect historic trail</p>	<p>Mark to improve the overall stand health by reducing tree density to an average basal area of 90-100 sq.ft per acre, leaving the best PP, WL, DF, ES, WRC.</p> <p>Trees can be left from any crown class, however, selecting from the dominant and codominant level is preferred. Leave functional wildlife snags and replacement snags, with preference to broken topped and old, decadent WL, WRC trees.</p> <p>Be aware of bark beetle activity in the DF and adjust the marking to this condition.</p> <p>Stand Improvement, lop and scatter</p>	30-40%	Skyline
25	13	11	<p>Modify stands in order to maintain healthy forest conditions while improving growth potential of the healthy, more dominant trees.</p> <p>Minimize change in scenic value and ecological integrity as viewed from roadside and the adjacent Special Interest Area.</p> <p>Maintain important hiding cover for wildlife security adjacent to unrecovered plantation. Improve the winter range forage base for big game species</p> <p>Maintain conditions that promote trend towards a more open structured yet multiaged forest with potential for continued development of large diameter trees</p>	<p>Remove excess and poor quality trees of all species, striving to achieve a target basal area averaging 90-100 sq.ft/acre in healthy dominant WL, ES, DF, WRC, WP.</p> <p>Uniform spacing is not necessary. Leave the old overstory WL, WRC relics as snag replacements, structural and genetic diversity, etc. Existing functional snags and replacement trees should be left.</p> <p>Stand Improvement, yard tops</p>	30-40%	Tractor

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UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
26	36	11	<p>Maintain important winter range habitat functions and roadside hiding cover while reducing tree density in an urban interface setting. Promote a more open forest condition that is resilient and more suitable to a fire maintained ecosystem while maintaining the trend towards old growth character.</p> <p>Minimize change in scenic value and ecological integrity as viewed from roadside</p>	<p>Remove LP. Remove excess trees to reduce canopy closure trend and number of size classes while maintaining structural integrity of this stand. Thin from below, leaving an average of 90-100 basal area/acre in the best WL, ES, DF, WP. Retain all existing wildlife snags. No equipment within 100 feet of road.</p> <p>Stand Improvement, selective slashing, yard tops</p>	25-30%	Tractor
27 27A	16 11	12	<p>Initiate regeneration activities in a forest condition that is becoming understocked due to high levels of bark beetle-caused mortality in LP. Reduce downed fuel accumulations and density of ladder fuels to reduce negative effects in the event of an unplanned wildfire. Restore a greater proportion of species best adapted to this site and the inherent fire regime.</p>	<p>Mark to leave an average of 8-10 quality WL, DF, ES dominant and co-dominant trees/acre, selecting out trees with <30% live crowns, poor form, directly competing with potential crop trees, etc. Uniform spacing is not desirable</p> <p>All existing, functional snags (ie: broken tops, cavity nester signs, etc) should be left. Snag replacement trees should be left in proximity to other leave trees, if at all possible.</p> <p>Seedtree with Reserves, selective slashing, excavator pile, wide plant</p>	40-50%	Tractor
29	102	11	<p>Modify existing conditions to improve big game winter range through the reduction in canopy cover and re-introduction of fire as an ecosystem process.</p> <p>Improve forest health and sustainability of fire adapted species through the reduction in tree density and re-allocation of growing space.</p> <p>Maintain important winter range habitat functions.</p>	<p>Following harvest, this area will be underburned for wildlife. The area above the treatment boundary will also be burned and allowed to creep to the ridge, burning natural fuels. Mark to select out excess, poor quality and less fire adapted trees growing in direct proximity to dominant and codominant trees. While overstocked conditions are not common, it is desirable to thin out clumps where basal area exceeds 90 sq ft/ac, enabling further development of the best trees, and minimizing the potential for a ground fire to advance into the crowns of overstory trees.</p> <p>It is preferable that leave trees be over 14 " dbh to minimize adverse effects of underburning. If that size is not available and the preferred species is, smaller trees can be left. As this area is dominated by WL, look for opportunities to promote other species that exhibit growth potential, have healthy crowns</p> <p>Stand Improvement, yard tops, underburn</p>	25-30%	Helicopter

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
31	10	11	Stand replacement to address fuel reduction in Yaak WUI, restore WL, WL with ES and DF. Capture economic value in mature, high risk LP. Create conditions more favorable to eventual use of maintenance burning. Maintain visual quality Promote long and short term improvements for wildlife.	Stand is variable and will be treated according to some very specific marking guides that are described in a separate document. Seedtree Seedcut with Reserves, slash damaged saplings and poor quality trees <6" dbh, excavator pile	75-90%	Winter Tractor
32	21	11	Stand replacement in areas of mature, uniform LP that has and will continue experiencing stagnation, bark beetle-caused mortality and stem decay. Reduce fuels and risk of unplanned stand replacing fire. Restore a greater mix of conifer species adapted to this site and conducive to the inherent fire regime. Promote long and short term improvements for wildlife.	Remove all LP. Leave all WL with minimal dwarf mistletoe infection and any other healthy trees greater than 7", with over 20% live crown.. Broken top trees of suitable as snags or showing sign of cavity nesting that are greater than 12" at DBH should be left Clearcut with Reserves, selective slashing, excavator pile, plant	95%	Winter Tractor
33	21	12	Stand replacement in areas of declining tree health and restoration needs that emphasize species at risk, in particular, WL and WP. Open up areas for wildlife forage enhancement. Protect RHCAs Meet Forest Plan standards for opening size and distance to hiding cover	Initiate regeneration harvest. Mark to leave a minimum of 10-15 TPA of healthy WL, ES, DF, WRC for leave. In addition, leave all existing functional wildlife snags with preference for WL and WRC. Seedtree Seedcut with Reserves, excavator pile, wide plant	90-95%	Tractor
34A 34B	101 28	12	Modify forest conditions to reduce uncharacteristic tree density and re-allocate growth potential to the best trees. Improve trend towards a greater proportion of larger diameter trees and a more characteristic forest condition that may develop old growth structure Protect integrity of wet forest types and RHCAs	Considering the objectives outlined, mark to remove excess and poor quality trees striving to achieve a target basal area averaging 100-130 sq.ft/acre in healthy, more dominant WL, ES, DF, WRC, WP. Uniform spacing is not an objective, especially in cases where ES is left and windthrow is a concern. Leave functional wildlife snags. Leave the relic overstory WL, WRC as snag replacements, structural and genetic diversity. Stand Improvement, excavator pile	30-50%	Helicopter

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UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
35	50	12,14	Modify forest conditions to reduce uncharacteristic tree density and re-allocate growth potential to the best trees. Improve trend towards a greater proportion of larger diameter trees and a more characteristic forest condition that may develop old growth structure	Same as unit 34 Stand Improvement, excavator pile	30-50%	Tractor
38	23	11,15	Modify existing conditions to maintain and/or improve forage conditions through the reduction in canopy cover and creating conditions more suitable to the eventual re-introduction of fire as an ecosystem process. Reduce fuel loadings in areas of dead, dying LP and reduce risk of crown fire throughout. Improve forest health and sustainability of fire-adapted species through the reduction in tree density and the re-allocation of growing space. Maintain important hydrologic resources and function.	With a target of ave 90-100 sq. ft. of basal area, mark to reduce density and number of age classes. Focus on removal of poor quality trees primarily from the lower diameter classes, especially where excess and poor quality trees are growing within the crown dripline of healthy WL, ES, DF, WRC. Preference for leave trees should come from the dominant and codominant crown class, but where not available recruitment can come from healthy WL, ES, DF, WRC from the middle aged, intermediate class (generally 9-12" trees). In most cases the large diameter relic overstory trees should be left unless in a clumpy situation and could benefit from some release. Stand Improvement, yard tops	30-35%	Winter Tractor
38a	16	11,15	Modify existing conditions to maintain and/or improve big game winter range through the reduction in canopy cover and future re-introduction of fire as an ecosystem process. Maintain important winter range habitat functions. Improve forest health and sustainability of fire-adapted species through the reduction in tree density and the re-allocation of growing space.	With a target basal area ave 90 sq.ft acre, mark to reduce tree density especially in the poor quality trees of the intermediate crown class. Desired leave species are dominant and codominant WL, DF, WP although healthy intermediates with growth potential can be left for recruitment. Leave trees are not intended to be left in any uniform pattern or spacing. Stand Improvement, yard tops	30%	Winter Tractor

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
40	21	17	Maintain scenic value of this roadside setting while modifying forest conditions to reduce canopy closure. Reduce stem density to re-allocate growth potential to the best trees, thereby improving trend towards a greater proportion of larger diameter trees and a more characteristic forest condition that may develop old growth structure. Retain the existing, downed woody large diameter logs.	Mark to reduce canopy closure, thinning from below, leaving an average of 90-100 basal area/acre in the best WL and ES trees. Retain all existing wildlife snags and old downed WL logs. Stand Improvement, yard tops	25-30%	Winter Tractor
42	50	11	Modify landscape conditions to maintain/ enhance winter range habitat effectiveness for big game. In the drier settings, trend towards more open canopy, suitable to PP maintenance and the eventual re-introduction of fire. In wetter settings, maintain the integrity and species mix of important wet areas, cedar bottoms, RHCAs	Maintain the open structure while reducing number of age classes and density to 90-100 sq.ft basal area. Focus on removal of poor quality trees primarily from the lower diameter classes, especially where growing within the crown dripline of PP, WL, DF leave trees. Large diameter relic overstory trees should be left unless density reduction is beneficial..All healthy WP and PP should be left. Stand Improvement, selective slashing, yard tops	30-40%	Winter Tractor
42A	8	11	Maintain the unique qualities of this forest type and species composition, while trending toward a somewhat more open-grown forest structure. Promoting the maintenance of a greater proportion of large fire-adapted species. Reduce vulnerability to uncharacteristic fires that would increase mortality in large diameter overstory. Improve winter range forage base through canopy reductions and improved stand suitability to eventual use of prescribed fire in some of the area. Protect RHCA	Area 1 (cedar basin) – leave an ave 100-130 sq. ft/acre mark to maintain an uneven aged and two storied stand condition. Focus on removal of poor quality and excess trees in all diameter classes but with emphasis on thinning from below. Give preference towards selecting leave trees from the healthy, more dominant WL, WRC, ES, DF (in order) that are 14" dbh and greater.. Area 2 (remaining areas)- leave an ave 80 sq.ft/acre to create a generally single storied, yet 2 aged forest condition composed of primarily WL, DF, WRC preferably from the dominant/codominant crown class. Leave most ES and WRC along the special treatment zone. Leave all existing wildlife snags and most of the relic overstory. Stand Improvement, selective slashing, YT	25-30%	Winter Tractor

Treatment Summaries

Appendix 1

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
42B	2	11	<p>In the long term, there is a need to improve the winter range forage base for big game species such as deer, elk, and moose. Reductions in canopy closure and trending of conditions towards what may be more suitable for eventual prescribed burning is desirable.</p> <p>Maintain important winter range functions for dependant wildlife while creating a more open structured forest condition.</p>	<p>With target basal area of 80-90 sq. ft. create a more open structured condition reducing number of age classes, density and distrib of trees, especially the lower dbh classes growing within the crown dripline of healthy PP, WL,DF.</p> <p>Leave tree quality and distrib more important than uniform spacing. Preference for leave trees should come from the dominant and codominant crown class, but where not available recruit healthy PP, WL, DF from the middle aged, intermediate class (9-12" trees)</p> <p>Stand Improvement, selective slashing, excavator pile</p>	30-40	Tractor
44	17	11	<p>Modify forest conditions to promote a more open stand structure that creates less vulnerability to stand replacing fire and loss of the important scattered species mix, especially the relic overstory. Capture economic value in a stand with mature, dead and high risk LP.</p> <p>Improve growth potential of healthy trees in the more intermediate and codominant crown class while reducing uncharacteristic densities</p> <p>Maintain important winter range habitat functions.</p>	<p>Mark to remove all LP and thin remaining trees in the lower crown classes to an ave basal area of 80-100 sq. ft/ac. Some areas will meet the DFC with LP removal only. Other areas are overstocked with suppressed and intermediate sized trees. Leave tree preference is PP,WL,DF,ES and are intended to function as a seed source, genetic diversity, and evidence of historic fires. Retain the relic WL overstory.</p> <p>Stand Improvement, slash damaged saplings, spot excavator pile</p>	30-40%	Winter Tractor
45	66	11	<p>Modify conditions in a very diverse, ecologically important setting to reduce fuel loadings, uncharacteristic tree density, and risk of crown fire</p> <p>Improve growth potential and sustainability of all species promoting a more open structured condition that is more characteristic of the area and better suited to the eventuality of an unplanned wildfire.</p> <p>Promote improvements for wildlife. Protect wet areas, RHCAs, etc. Maintain important winter range habitat functions</p>	<p>With a target density ave 70-80 sq.ft.of BA/ac mark to improve stand composition and structure, focusing on reducing density in lower dbh classes, opening up around healthy dominant and co-dominant PP,WL,DF. Areas marked alongside the RHCA will give consideration to leaving most ES and WRC, striving to achieve the treatment objectives</p> <p>Leave trees will be left irregularly spaced and occasionally clumped to retain the best trees. Expect treatment of LP concentrations and/or dense DF thickets will result in very small openings, below the target BA. Leave all existing wildlife snags, preferably in clumps or close to other leave trees.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	30-40%	Winter Tractor

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
46	12	11	<p>Modify conditions in proximity to an urban interface setting to reduce density of even-aged trees, fuels, and risk of crown fire. Improve growth potential of the more fire adapted trees, promote a more open stand structure that maintains options for future ecosystem maintenance burning</p> <p>Maintain important winter range habitat functions.</p>	<p>Reduce stand density to an average basal area of 60 sq.ft/acre in LP concentrations and up to 80 where other species are available to leave. Mark to improve stand composition and structure, reducing density in lower diameter classes, with emphasis on opening up around the best WL and PP while removing many of the LP.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	30-40%	Tractor
47	11	11	<p>Modify conditions to reduce fuel loadings and risk of crown fire where mature, high risk and dead LP occurs and stand density is uncharacteristic. Create a more defensible space adjacent to Yaak schoolhouse. Recover economic value.</p> <p>Improve growth potential of the best trees and promote a more open condition that is sustainable until stand replacement is appropriate</p> <p>Promote long and short term improvements for wildlife.</p>	<p>Mark to reduce stand density and increase longevity of remaining healthy LP. Remove the dead, excess and poor quality LP leaving an average basal area of 60-80 sq.ft/acre. Leave trees should be relatively free to grow with crowns spaced apart and have the most potential to respond to this treatment. Additional details are provided in the marking guides.</p> <p>Commercial Thin, selective slashing, excavator pile</p>	25-30%	Tractor
48	18	11	<p>Modify conditions in an urban interface setting to reduce stand density and risk of crown fire while improving growth potential of the best trees and promoting a more open structured condition conducive to the future use of ecosystem maintenance burning.</p> <p>Maintain important winter range habitat functions.</p>	<p>Where stand density exceeds 80 basal area in LP dominated areas and up to 100 in mixed species stands, mark to reduce the number of smaller intermediate, suppressed, or even poor formed codominants trees. Emphasize retention of the healthy trees with average diameter over 12". Additional details are provided in the marking guides</p> <p>Commercial Thin, yard tops</p>	25-30%	Tractor
49A	7	11	<p>Modify conditions in an urban interface setting to reduce fuel loadings and risk of crown fire where dead LP has accumulated and stand density is uncharacteristic</p> <p>Improve growth potential of the shade intolerant, more fire adapted trees and promote a more open structured condition conducive to eventual use of prescribed fire.</p> <p>Promote improvements for wildlife, including adequate crown cover for snow intercept</p>	<p>Reduce stand density to an average basal area of 60-80 sq.ft/acre, depending on proximity to the adjacent private lands .Emphasis includes removing undesirable trees beneath the drip line of WL, PP, DF overstory.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	30-40%	Tractor

Treatment Summaries

Appendix 1

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
49	13	11	<p>Modify conditions in an urban interface setting to reduce fuel loadings and risk of crown fire where dead LP has accumulated and stand density is uncharacteristic</p> <p>Improve growth potential of the shade intolerant, more fire adapted trees and promote a more open structured condition conducive to eventual use of prescribed fire</p> <p>Promote improvements for wildlife, including adequate crown cover for snow intercept.</p> <p>Protect integrity of wet areas and RHCAs</p>	<p>With the exception of special zone along private lands, reduce stand density to an average basal area of 100 sq.ft/acre, with the emphasis on taking out the poor quality, intermediate size trees. Where species are mixed, emphasis removal of LP. Where LP is concentrated, leave the best trees where crowns are >30%</p> <p>Exception: within 100 feet of private, reduce BA to ave 60 sq.ft/acre where LP dominates, 80 otherwise.</p> <p>Stand Improvement, selective slashing, spot excavator pile along private</p>	30-40%	Tractor
50	36	11	<p>Modify conditions to reduce fuel loadings, density of ladder fuels and risk of crown fire</p> <p>Improve growth potential of the shade intolerant, more fire adapted trees promoting a more open structured condition conducive to eventual use of prescribed fire</p> <p>Maintain important winter range habitat functions</p>	<p><u>Area 1</u>- (above and adjacent to past partial harvest unit). Where concentrated remove all LP. In mixed species areas with some poor quality trees, maintain a basal area of 90 square feet. Poor quality, intermediate DF within crown dripline of PP or WL leave trees should be selected out. <u>Area 2</u>- (site of previous burn). reduce BA to 100 taking any LPP first then sick, lame or dying intermediate, DF, WL or PP reducing intermediate trees that are within the dripline of other larger or better formed trees.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	25-30%	Tractor
50A	10	11	<p>Modify stand to reduce density of trees and ladder fuels while managing for winter range conditions.</p> <p>Create conditions more suitable for future ecosystem maintenance burning</p>	<p>Designate LP for removal. In characteristically dense areas, select out poor quality and excess trees primarily from the lower diameter classes. Retain a minimum stand density of 80 basal area with emphasis on retaining the healthy, fire adapted WL, PP, DF dominants and trees from lower diameter class with recruitment potential.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	20-30%	Tractor

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
50 C	4	11	Modify stand to reduce density of trees and ladder fuels while managing for winter range conditions. Create conditions more suitable for future ecosystem maintenance burning	Same as unit 50 B Stand Improvement, slash damaged saplings, yard tops	20-30%	Tractor
51	16	11	Modify conditions in an urban interface setting to reduce fuel loadings and risk of crown fire Improve growth potential of the shade intolerant, more fire adapted trees promoting a more open structured condition Maintain important winter range habitat functions	Reduce stand density within a 100 foot zone of private lands to an average of 60 sq.ft/ac in LP areas and 80 otherwise. Leave the best WL, DF, ES. Slash non merchantable trees also. Reduce stand density in the remaining areas to an average of 80 sq.ft/ac in LP areas and 100 otherwise. Leave the best WL, DF, ES. Slash damaged or suppressed trees less than 6" in diameter also. Stand Improvement, selective slashing, excavator pile	30-40%	Tractor
52	117	11	Modify conditions in an urban interface setting to reduce fuel loadings and risk of crown fire Improve growth potential of the shade intolerant, more fire adapted trees promoting a more open structured condition Promote improvements for wildlife. Protect wet areas, RHCAs, etc. Maintain important winter range habitat functions	Mark to improve stand composition and structure, focusing on reducing density in lower diameter classes, with emphasis on opening up around healthy PP and WL. Retain an average of 80 sq.ft. of basal area/ac in the best trees from all crown classes, but with an emphasis on retention of the large diameter dominant and co-dominant PP, WL, DF and intermediate ES. Stand Improvement, excavator pile	30-40%	Helicopter
52a	6	11	Stand replacement of a mature, uniform and stagnated LP forest followed by restoration with WL, WP regeneration. Retain old forest structure where available. Recover economic value.	Initiate regeneration harvest through removal of all LP and the excess or poor quality intermediate size trees in areas where species is mixed. Retain all WL overstory relics, healthy codominant WL/DF, PP and existing functional snags and provide for snag replacement. Clearcut with Reserves, excavator pile, plant and tube	95%	Helicopter

Treatment Summaries

Appendix 1

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
53	68	11	<p>Modify conditions to reduce areas of high fuel loadings and dense ladder fuels that increase risk of crown fire</p> <p>Improve growth potential of the shade intolerant, more fire adapted trees promoting a more open structured condition conducive to eventual use of .</p> <p>Maintain areas of functional hiding cover for wildlife use and protection along roadside</p>	<p>Designate all LP for removal. Mark to improve stand composition and structure, focusing on reducing density in lower diameter classes, with emphasis on opening up around PP. Retain an average of 80 sq.ft. of basal area/ac in healthy trees from all crown classes, but with an emphasis on retention of the large diameter dominant and co-dominant PP, WL, DF.</p> <p>Stand Improvement, selective slashing, excavator pile</p>	20-30%	Tractor
55 55A	69 38	11	<p>Modify forest conditions to reduce stand density, promote growth and sustainable conditions for the best, fire adapted trees. Also, reduce density and distribution of ladder fuels while retaining hiding cover.</p> <p>Maintain conditions that reflect the importance of the area as a transitional habitat adjacent to old growth.</p> <p>Maintain integrity of wet areas, RHCAs. Maintain important winter range habitat functions.</p>	<p>This area has considerable variation and very specific treatment details will be described in the marking guide. In general, basal area will be reduced to an average of 90 sq.ft/acre. The reserved trees will be mostly WL, DF, PP with some WP. Some areas of healthy, dense saplings will be thinned to maintain hiding cover and provide stand recruitment.</p> <p>Stand Improvement, selective slashing, lop and scatter (55 A), yard tops (55)</p>	30-40%	Helicopter
56	38	11	<p>Modify forest conditions to reduce fuel loadings and risk of crown fire in an area with high susceptibility to continued bark beetle mortality and windthrow.</p> <p>Create and maintain conditions more suitable to use of ecosystem maintenance burning and enhancement of wildlife habitat.</p>	<p>All LP is designated for removal. Also, mark to remove minor amounts of poor quality trees of other species where patch density exceeds 80 sq.ft/acre. Retention of the healthy WL, WP and PP is emphasized</p> <p>Stand Improvement, selective slashing excavator pile</p>	20-30%	Helicopter
56a	11	11	<p>Reduce risk of unplanned wildfire and undesirable effects through stand replacement of a mature and stagnated LP forest that has considerable mortality due to bark beetles. Initiate restoration of WL, WP regeneration.</p> <p>Maintain important winter range habitat functions. Retain old forest structure where available.</p>	<p>All LP is designated for removal. Also, mark to leave all WL with moderate mistletoe levels, and trees other than LP greater than 7 inches at dbh with at least a 20% live crown.</p> <p>Clearcut with Reserves, selective slashing, excavator pile, plant</p>	90%	Helicopter

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY	% CROWN REMOVAL	LOGGING METHOD
57	37	11	<p>Modify existing conditions to improve big game winter range through reduction in canopy cover and re-introduction of fire as an ecosystem process. Improve forest health and reduce DF beetle susceptibility through reduction in tree density. Improve conditions for the maintenance of PP and continued growth of the leave trees.</p> <p>Maintain important winter range habitat functions</p>	<p>All LP is designated for removal. Also, thin from lower diameter classes and reduce intermediate size tree density in areas with basal area over 80.</p> <p>Stand Improvement, selective slashing, underburn</p>	20-30%	Helicopter
59	28	11	<p>Initiate regeneration activities in a stand that is becoming understocked due to bark beetle caused LP mortality and is located next to private land.</p> <p>Reduce down fuel accumulations and composition of ladder fuels to avoid undesirable effects from unplanned wildfire.</p> <p>Maintain overstory structure and quality hiding cover.</p>	<p>Designate all LP for removal and mark to remove poor quality trees of other species, primarily that are within the dripline of overstory PP, WL, DF. It is estimated that approx 10-15 healthy, well formed trees will left from the dominant, codominant crown class as well as quality sapling and pole size trees within openings created by fallen LP.</p> <p>Seedtree with Reserves, selective slashing, excavator pile, wide plant</p>	40-50%	Tractor
60	24	11	<p>Improve growth potential of shade intolerant, more fire adapted trees. Modify stand conditions to reduce fuel loadings and risk of crown fire</p> <p>Culture stand to allow for later treatments with prescribed fire.</p> <p>Promote long and short term improvements for wildlife.</p>	<p>This area has at least 3 distinct stand conditions and treatment will vary. The marking guides provides more detail, but in summary: designate all LP for removal. In areas of mature PP and of mixed species where stand density is high and composition is of mostly intermediate and codominant trees beneath dripline of overstory, reduce to 100 basal area</p> <p>Stand Improvement, selective slashing, excavator pile</p>	30-35%	Tractor

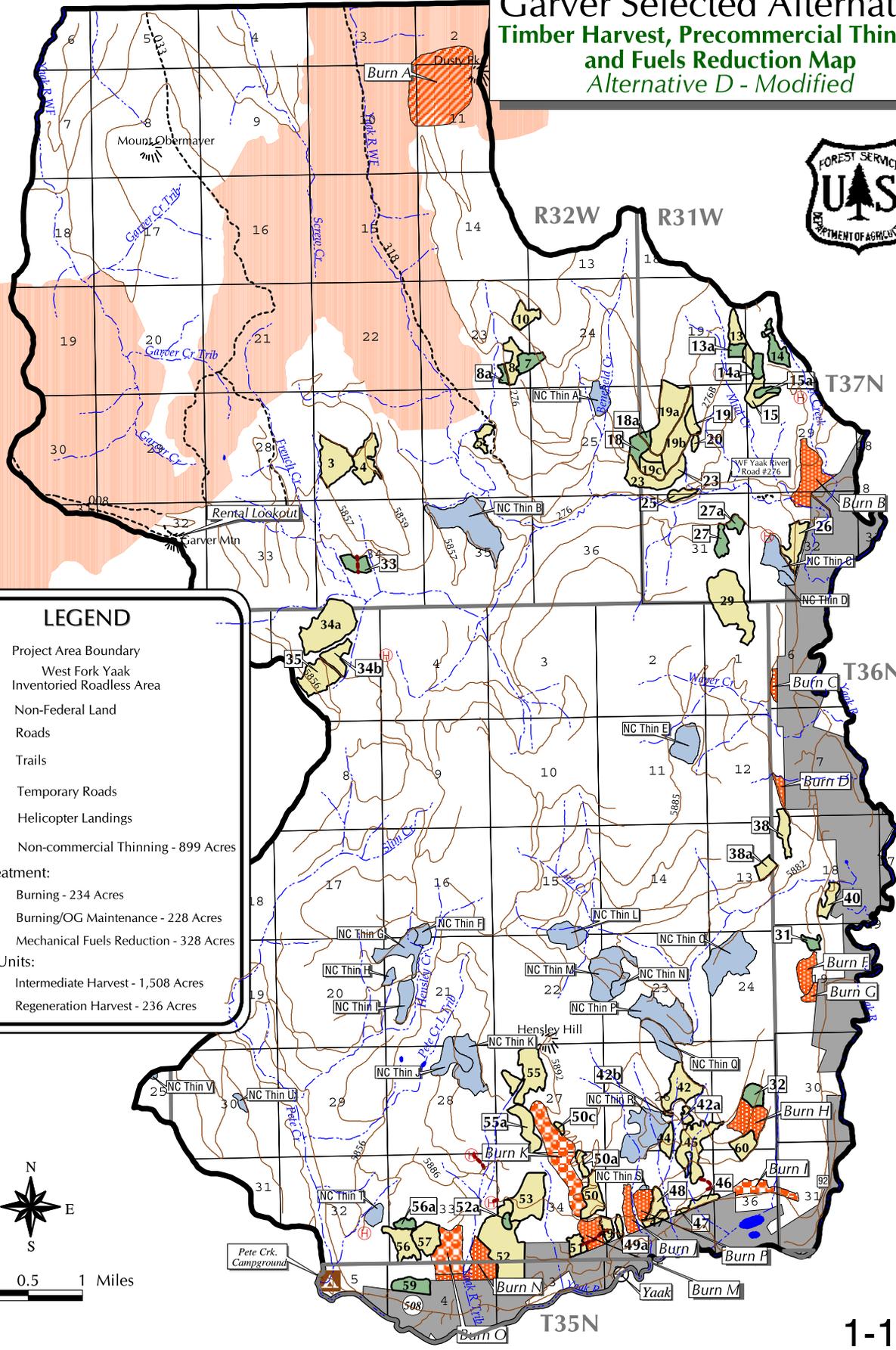
Table Abbreviations: (DF) Douglas-fir, (WL) western larch, (PP) ponderosa pine, (LP) lodgepole pine, (WRC) western redcedar, (WH) western hemlock, (WP) white pine, (GF) grand fir

Garver FEIS

Natural Fuels Reduction Treatment Summary--Alternative D-Modified

UNIT	ACRE	MA*	TREATMENT OBJECTIVES	TREATMENT DESCRIPTION AND SUMMARY
A	234	2 (West Fk. Yaak IRA)	Restore ecological processes, stimulate browse, reintroduce fire into ecosystem, work with what was done in 1980s to maintain openings	Aerial ignition underburn
B	74	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length	Hand slashing combined with spring underburn in area W of Yaak Hwy. Mechanical treatment with excavator piling and burning of piles E of Yaak Hwy
C	10	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length	Mechanical treatment with excavator piling and burning of piles in flat area along private boundary.
D	12	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Hand slashing and handpile of understory trees below six inches DBH. Fall burn handpiles.
E	38		Drop due to RHCA's and possible MA change to old growth	N/A
F	29	17	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning
G	9	17	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning
H	49	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning in areas with existing fuels. Open areas do not require piling.
I	35	13 (Old Growth)	Maintain OG characteristics, stimulate browse, short term nutrient flush for natural seeding to occur	Minimal amount of hand slashing of DF followed by spring underburn
J	25	11	Improve health of current plantation, reduce risk of crown fire destroying the plantation, stimulate browse (serviceberry, huckleberry)	Hand slashing of <4" dbh trees favoring PP to leave. Prune leave trees to 4' for first live limb. Spring UB
K	124	13 (Old Growth)	Maintain OG characteristics, stimulate browse, short term nutrient flush for natural seeding to occur	Minimal amount of hand slashing of DF followed by spring underburn
M	34	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning
N	58	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning
O	69	13 (Old Growth)	Maintain OG characteristics, stimulate browse, short term nutrient flush for natural seeding to occur	Minimal amount of hand slashing of DF followed by spring underburn
P	28	11	Reduce fuel loading and ladder fuels so that unit will not maintain 4' flame length. Improve health of current stand by reducing canopy competition/density	Mechanical treatment with excavator piling and burning

Garver Selected Alternative Timber Harvest, Precommercial Thinning and Fuels Reduction Map Alternative D - Modified



LEGEND

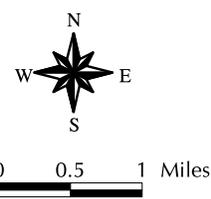
- Project Area Boundary
- West Fork Yaak Inventoried Roadless Area
- Non-Federal Land
- Roads
- Trails
- Temporary Roads
- Helicopter Landings
- Non-commercial Thinning - 899 Acres

Fuels Treatment:

- Burning - 234 Acres
- Burning/OG Maintenance - 228 Acres
- Mechanical Fuels Reduction - 328 Acres

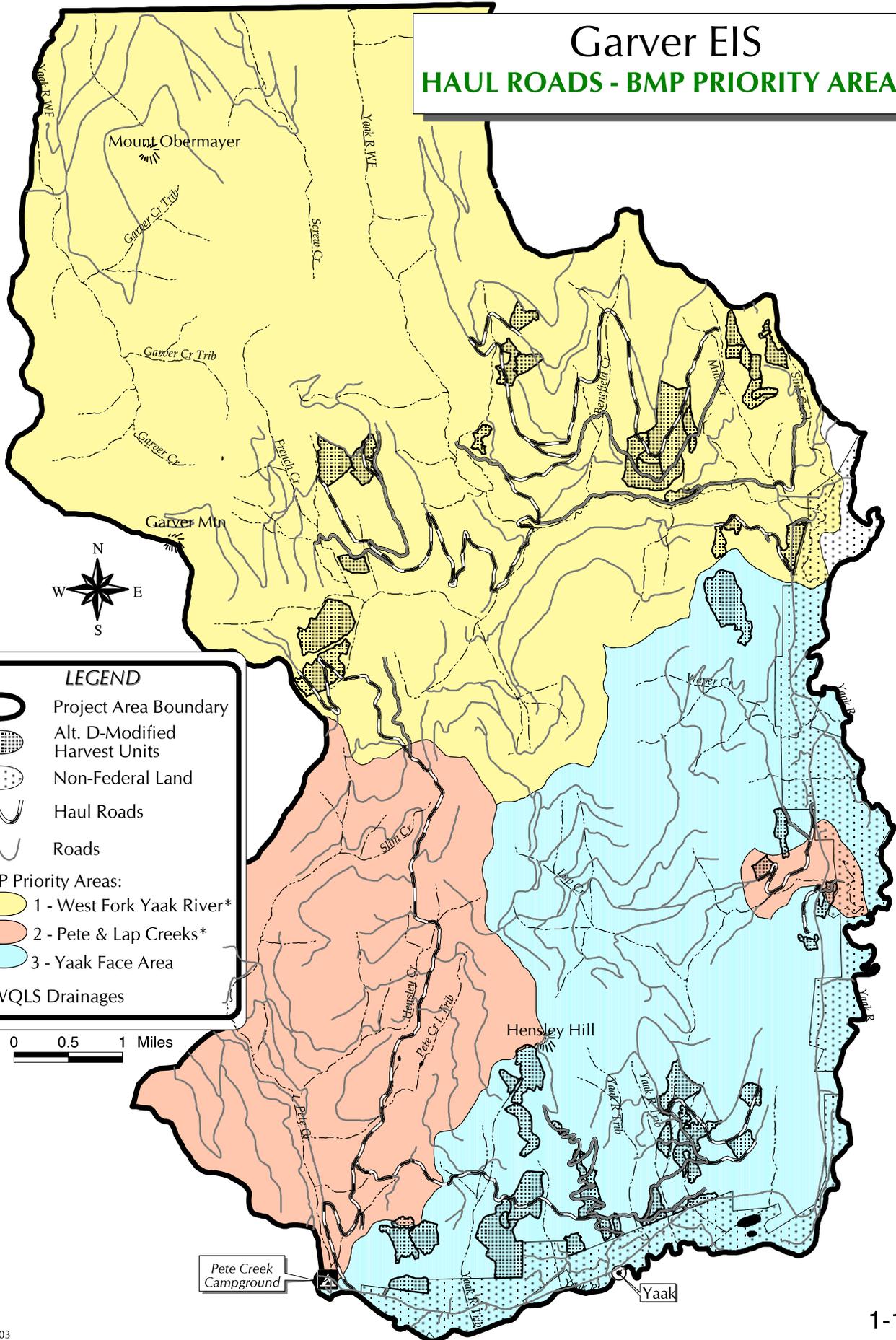
Harvest Units:

- Intermediate Harvest - 1,508 Acres
- Regeneration Harvest - 236 Acres



Garver EIS

HAUL ROADS - BMP PRIORITY AREAS



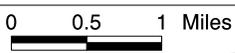
LEGEND

- Project Area Boundary
- Alt. D-Modified Harvest Units
- Non-Federal Land
- Haul Roads
- Roads

BMP Priority Areas:

- 1 - West Fork Yaak River*
- 2 - Pete & Lap Creeks*
- 3 - Yaak Face Area

* WQLS Drainages



GARVER PROJECT Design Features and Mitigation Measures

The following table describes the design features and mitigation measures applied to this project to protect resources.

GARVER PROJECT DESIGN FEATURES AND MITIGATION MEASURES

Trails and Roads: Timber Sale Standard Provision BT6.22, Protection of Improvements, will be included in any timber sale contract. It will require the purchaser to protect specified improvements, such as trails, roads and fences.

Unit Specific Feature to Protect Trails: Timber Sale purchaser will protect the trail tread on a portion of Trail #318, which runs through Unit 5, and clear the trail upon completion of harvest activities. The trail should be treated according to the standard in the Programmatic Agreement between the Kootenai National Forest, The Montana State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Treatment of Historic Trails and Logging Remains as outlined in Appendix B, IB, "Timber Harvesting and Site Preparation."

Inventoried Roadless Areas: Harvest units are located outside Inventoried Roadless Areas to preserve options for future management pending revision of the Kootenai Forest Plan. The proposed prescribed burning within the IRA is designed to replicate natural processes.

Soil, Water, Fisheries: Harvest, burning and road work activities will be designed to meet objectives in the Soil and Water Conservation Practices Handbook 2509.22 (USDA Forest Service, 1988), which comply with Montana State water quality regulations. Montana State Best Management Practices (BMPs) will be applied to this project. These BMPs are incorporated into clauses in the timber sale contract. BMP implementation is monitored by the timber sale administrators and the engineering representatives. Monitoring results are included in the annual Forest Plan Monitoring and Evaluation Reports.

Road-related work will be applied according to a prioritization based on potential benefit to fisheries:

- The Forest Service commits to applying BMPs to all haul roads in the West Fork Yaak watershed for this project (See map in ROD Appendix 1-18).
- BMP work in other watersheds will be dependent on timber sale receipts and will be prioritized as follows: 1) Pete Creek and Lap Creek; 2) Unnamed face drainages to the Yaak River.

Within these watersheds, implementing BMPs to prevent sediment at stream crossings will be the highest priority.

Timber harvest, road maintenance and BMP work, landing construction, and prescribed burning will meet Kootenai Forest Plan standards and guidelines as revised by the Inland Native Fish Strategy (INFS) Decision Notice (1995). Protected areas, which are called Riparian Habitat Conservation Areas (RHCAs), include all intermittent and perennial streams, wetlands, and landslide prone areas. All alternatives will implement the default RHCA widths specified by INFS. RHCAs will be identified on the sale area map in the timber sale contract. No timber harvest will occur in RHCAs designated along streams or wetlands. If springs and small streams are found within cutting units during layout, RHCA widths will be implemented, and all dead and live trees within the RHCA will be retained. During prescribed burning, no ignition will take place in an RHCA.

Unit Specific Feature to Provide RHCA Protection: Equipment may cross RHCAs at designated locations in Units 5 and 34 if suitable sites can be found that adequately protect water and soil resources. An alternative practice permit from the Department of Natural Resources and Conservation may be required prior to equipment use within these streamside riparian areas.

A spill control prevention plan will be required by the timber sale contract for helicopter fuel storage.

Areas of recent or historic landslides, slumping, and debris torrents are considered landslide-prone RHCAs. Harvest design has avoided known sites. However, small areas of instability may be found during layout of the units. These sites will be designated as landslide-prone RHCAs, and harvest of live trees will be avoided. Unit specific soil concerns will be documented in the timber sale layout notes.

Burning prescriptions will be prepared for fuel reduction activities. These prescriptions will determine the limits of weather conditions and fuel moistures to control fire intensity.

The State of Montana Stream Management Zone (SMZ) Law prohibits broadcast burning in SMZs. During broadcast or underburning, no ignition will take place in an SMZ.

Contract specifications for weed spraying will comply with the 1997 KNF Herbicide Weed Control EA/Decision Notice.

Design Features & Mitigation Measures

Appendix 2

Long-term soil productivity will be protected by leaving sufficient levels of wood on site. Silvicultural and burning prescriptions will be developed to retain sufficient levels of coarse woody debris on site after slash disposal.

Site Specific Design Feature to maintain long term soil productivity and provide large woody material for small mammals and other wildlife species:

Within harvest units 42b, 44, 46, 47, 49a, 49, 50, 50a, 50b, 50c, 51, 52, 52a, 53, 54, 56, 56a, 59, 60 leave 5 to 9 tons per acre of coarse woody debris (CWD) on site after harvest and/or fuels treatment.

Within harvest units 8, 12, 15, 31, 42B, 45, 60 leave 10-15 tons per acre of CWD on site after harvest and/or fuels treatment.

Within harvest units 1, 3, 7, 11, 14, 15a, 17, 18, 26, 27, 32, 40 leave 15-30 tons per acre of CWD on site after harvest and/or fuels treatment.

Within harvest units 4, 33, 34, 35 leave 25-40 tons per acre of CWD on site after harvest and/or fuels treatment.

CWD should be left scattered across the unit, not concentrated. Piece size should exceed 5" in diameter but preference is for larger material where possible. This material originates from unutilized portions of designated trees, cull materials, broken tops, etc. With the exception of downed, dead lodgepole pine most existing down and decaying logs currently on site should be left, unless otherwise directed to by Forest Service.

There are no new permanent roads proposed with this project. Temporary roads will be fully recontoured after use. There are no streams within 300 feet of these roads.

In tractor units the sale administrator will approve the skidding plans that minimize the total detrimental disturbance. In general this means plans that minimize the total area dedicated to skid trails, temporary roads and landings. Excavated skid trails constructed as part of this project will be completely recontoured. Skid trails will be treated to prevent erosion. Permanently dedicated landing areas, such as helicopter landings, will be deep ripped or scarified, seeded, and fertilized. These requirements will be in the timber sale contract.

Site-Specific Feature to Protect Soils: Mechanized harvest, skidding, and/or slash piling activities in Units 33, 34 and 35 will be limited to August 1 to October 15 unless otherwise agreed to by the district hydrologist. Excavator piling in Unit 34 will be performed through an equipment rental contract to ensure resource protection, including protection of potential old growth habitat conditions and soils.

Reconditioning of existing roads needed for hauling will be held to the minimum necessary to protect and maintain the road surface and drainage structures, and provide for public safety. Scarification of ditches and catch basins will be done only where necessary to provide for adequate function. Scarified ditches and catchbasins will be seeded and fertilized. More extensive road work will be implemented where work will benefit the watershed condition.

Construction work in live streams, including culvert removals and replacements, must be reviewed and permitted by the Montana Department of Fish, Wildlife and Parks. Live streams will be dewatered during culvert replacement.

Forest Vegetation:

A number of treatment areas, including units 33, 34, and 35 have a relatively high proportion of thin-barked species (ie: spruce, cedar) marked for leave. During the spring these trees are particularly vulnerable to mechanical damage to the cambium, as the trees come out of dormancy. Operations during this period will be avoided.

Endangered, Threatened, Proposed and Sensitive Plants and Wildlife: Legal and biological requirements for the conservation of Endangered, Threatened, Proposed and Sensitive plants and animals will be met. These species have been identified in cooperation with other agencies such as the USFWS and MDFWP. Plant surveys will be completed prior to any ground-disturbing activities. Emphasis for surveys will be placed on areas with moderate-to-high potential to provide rare plant habitat. These surveys will be conducted by the District Botanist or a qualified biological technician. If any of these plant or animal species are located prior to or during implementation of any management activities, the activity will be altered so that proper protection measures could be taken. Timber sale contract clause B6.25, Protection of Habitat of Endangered Species, will be included in any subsequent timber sale contract. If necessary, additional modifications will occur through creation of special treatment zones or by relocating unit boundaries to avoid negative impacts. Disturbance to any sensitive plant populations or unique animal sites observed during sale activity will be avoided through cooperation between sale administrators and sale purchaser.

Site Specific Feature to Provide for Grizzly Bear Core Area and Grizzly Bear Habitat Effectiveness: Access management changes detailed in Appendix E will be implemented to provide for grizzly bear Core area and habitat effectiveness. Also, to provide habitat effectiveness, Units 31, 32, 38, 38a, 41, 42, 42a, 44, and 45 will be required winter harvest.

Design Features & Mitigation Measures

Appendix 2

Site Specific Feature to Provide for Grizzly Bear Spring Bear Habitat Protection: All proposed timber harvest activities that take place in spring bear range will avoid the spring bear use period (4/1-6/15); this applies to Units 3-26, 29-32, 38-60 (all units **except:** Units 27, 33, 34 and 35).

Site Specific Feature to Provide for Grizzly Bear Total Motorized Access Route Density (TMARD): The potential increase in TMARD from temporary road construction will be balanced by obscuring the entrance of Roads 5857C (French Garver C Spur) and 5857L (French Garver L Spur).

Big Game: Treatment units located within MA-11 (Big Game Winter Range/Timber management emphasis) are designed to retain some areas of heavier understory tree density to maintain adequate snow intercept cover. Thicker cover will be provided in riparian areas and those areas where treatment will not occur, as well as areas within treatment units where aspect, slope and fuels conditions allow low-intensity fire that will retain understory trees.

Site-Specific Feature to Provide Elk Security: Use of road system #5879 (Rausch Point) will be restricted during the project due to the importance of the area for big game security. Logging activity on units 42, 42a, 44 and 45 will be allowed from Dec. 1 to March 31 only; and the road system will be restricted to project activity traffic only (no public motorized use will be allowed).

Wildlife Habitat Connectivity: The maintenance of landscape-level connectivity and minimization of fragmentation was incorporated into the design of all harvest alternatives. Travel cover along ridges and saddles were identified and considered in terms of connectivity before proposing harvest or burning near such areas. All alternatives will maintain RHCA's along all streams, and will avoid creation of barriers to the movement of species expected to use such areas.

Old Growth Habitat: No harvest of designated MA-13 (or other old growth management areas) stands in the project area will occur. No roads will be constructed through old growth stands.

Site-Specific Features to Protect Old Growth During Burning: In burn units I, K, L, and O, any microsites that may experience detrimental effects from fire within the old growth maintenance burn units will be identified and excluded during the layout portion of this project. Snags within these old growth maintenance burn units will be protected through careful ignition and timing of the burn.

Cavity Habitat/Coarse Woody Material: All harvest units were designed to retain adequate levels of snags, replacement snags and coarse woody material to provide for cavity-associated wildlife species and long-term soil productivity. The timber sale contract will specify that snags will not be cut unless they are identified as a safety hazard. Safety hazard snags could be cut but must be left within the unit. Larger stems will be preferred to provide habitat for those wildlife species that require large diameter trees and for long-term structural diversity. Replacement trees will be scattered throughout harvest units to the extent possible. Coarse woody material levels were developed specifically for the forest types in the project area (see soils Features above). Silvicultural and burning prescriptions will be prepared with the goal of protecting large diameter snags, and retaining recommended levels and distribution of coarse woody material during site preparation and fuels treatment.

Fire/Air Quality: In order to reduce the risk of wildfire starting from timber sale activity, purchaser operations will be suspended when critical fire danger exists, by order of the Regional Forester or Forest Supervisor.

Burning prescriptions will be prepared for all fuel reduction activities using prescribed fire. These prescriptions will determine the limits of weather conditions and fuel moistures which will achieve desired fuels reductions, while protecting desired leave trees and retaining desired levels and distribution of coarse woody debris. Fire intensities will be kept low enough so that most desired leave trees will survive and soil damage will not occur. All burning operations will be conducted only when the specific conditions met those outlined in the burning prescriptions. All burning operations will be scheduled in accordance with the Memorandum of Understanding for air quality protection between the State of Montana Air Quality Bureau and the Forest Service, which allows burning only when adequate smoke dispersal will occur (see DEIS Chapter 3, Air Quality for additional features).

Excavator piles will be kept at 15 feet or less in diameter and 10 feet in height, and will be burned during the fall or winter when soil moisture is high. This will reduce the intensity and duration of heat near the soil surface, and reduce the risk of potential soil damage.

Noxious Weeds A number of preventative measures will be taken to reduce the risk of noxious weed introduction and spread in accordance with the Herbicide Weed Control EA and Decision Notice (Kootenai National Forest, 1997a).

1. Prior to harvest, Forest Service crews will patrol and spray weeds within 300 feet of Units 4, 7, 8, 14, 15, 15a, 27, 33, 34, 35, and 49. The Forest Service will also spray any weed-infested cut and fill slopes along road segments adjacent to harvest units.

Units receiving ground-based mechanical treatments will be monitored and evaluated for weed introduction from project activities. Units 4, 33, 34, and 35 will be treated if weed infestations are occurring. Treatment of

Design Features & Mitigation Measures

Appendix 2

additional unit infestations will be dependent on funding and prioritized based on a risk assessment conducted by the ID Team. This risk assessment is located in the project file.

2. Prior to use, the timber sale purchaser will spray: a) haul roads infested with weeds, b) helicopter landings infested with weeds. Weed populations along the 5861 (access to Unit 33) and 5840A (access to Unit 19) roads will be sprayed the year following reconstruction since these roads are currently overgrown and impassible. The 5840 road system will be monitored following initial treatment, and will be a high priority for repeat spraying with available funding since this area will be in grizzly bear core (inaccessible to motorized access) post project.
3. The timber sale contracts will contain Special Provision C6.351, which requires that all off-road vehicles associated with harvest operations be cleaned prior to entering the sale area. All equipment used in fuels reduction activities must also be washed of all dirt and plant parts prior to use on National Forest lands. Measures outlined in DEIS Appendix D will also be applied.

Cultural Resources: Cultural resource surveys were completed on many treatment units in high and moderate probability areas, and will be completed in the remaining treatment units in high and moderate probability areas prior to finalizing any subsequent projects. The action alternatives were designed to protect known cultural sites, provide for protection of sites discovered during implementation, and protect treaty rights. These concerns will be addressed through ongoing consultation with tribal representatives. Timber Sale Contract Special Provision B6.24#, Protection of Cultural Resources, will be included in any timber sale contract. It specifies that the Forest Service may modify or cancel the contract to protect cultural resources, regardless of when they were identified.

Scenic Resources: The action alternatives were designed to minimize effects to scenic conditions to the extent practical. Unit boundaries were designed to reduce straight lines and emulate natural features where possible. The intent was to provide a diversity of structural components to increase visual variety in the foreground. This will occur where species composition, slope, aspect and fuels accumulations will make accomplishment of this goal achievable. There are areas where this goal will not be achievable. In addition some residual small diameter trees will be retained within view of roadways to break up and soften the view of the harvest and fuel treatment activities. Landings will be located off of roads and within harvest units where practical to reduce their visual impact.

Unit Specific Feature to Protect Scenic Values: Within Unit 26 the landings will be kept to the backs of the units away from the highway. A strip approximately 50-100 feet wide along the highway will have the included timber felled back into the unit, and then pulled into the unit, to avoid skid trails near the road. Within Units 46 and 47 keep landings small and away from the Yaak Highway. No skidding will be allowed along the road. Within Unit 40 minimize the number of skid trails, ie. pull cable, landings should be located at the lower side of the unit away from the highway, remove tops with last log and winter harvest to reduce ground disturbance.

Public Motorized Access/Access Management: Some roads that are currently restricted will be opened to accommodate harvest operations, and public travel will be permitted on these roads unless not feasible due to safety concerns (see ROD Appendix 4 map for a display of access management activities). Public use of some roads, such as road system #5879 (Rausch Point) will be restricted during the project due to the importance of the area for big game security

GARVER MONITORING PLAN

ITEM #	RESOURCE	OBJECTIVE	TIMING	METHODOLOGY	RESPONSIBLE
1	Watershed	Monitor implementation and effectiveness of Best Management Practices (BMPs) in harvest units.	During and post timber sale activities.	Complete BMP timber sale inspection reports. IDT and District staff will review sample of units.	Sale Administration/IDT
2	Watershed	Monitor implementation of Riparian Habitat Conservation Areas (RHCAs.)	Prior to advertisement of timber sales and post harvest.	Monitor application and protection of RHCAs as described in Chapter 2. IDT and District staff will review sample of units.	Sale Prep/IDT
3	Watershed	Monitor implementation and effectiveness of committed BMP road work.	One year and three years after implementation.	Inspect road work in critical areas for effectiveness at dispersing water and decreasing sediment delivery.	Fisheries Biologist/ Hydrologist/ Engineering
4	Soils/Wildlife	Monitor implementation of large woody debris retention, especially in wet habitat sites.	Post harvest and post fuel reduction activities.	Measure tons per acre of down woody debris using transects within a sample of units	Fire and Fuels Specialist/ Hydrologist/Wildlife Biologist
5	Fire	Wildfire management and presuppression through fuels management (both in harvest and other areas).	Ongoing	Monitor fuels levels and treatment needs and effects. Evaluate both long and short-term effects of completed or ongoing treatments. Monitor areas of risk with potential suppression problems.	Fire/Fuels Specialist
6	Silviculture /Fire/Soils	Determine whether Silv. Rx objectives were accomplished. Assess site preparation and tree planting needs. Review status of CWD on site. Verify or modify next treatment	Post harvest and prior to any site preparation or fuels treatment	Review treatment areas. Evaluate silvicultural objectives in light of accomplishments and, if necessary, modify the original prescription. Check for special fuels treatment needs (e.g. excavator piling, no treatment, or different timing of Rx burn) and special planting needs (e.g. excavator scalp, moving of slash, or different stock type needed)	Fuels Management Specialist/District Silviculturist
7	Silviculture/ Noxious Weeds	Determine status of regeneration harvest units. Note presence or absence of noxious weeds	First, third and, if necessary, 5th year, following initial planting. Where natural regen is planned monitoring begins the first or second fall after site prep, a fall seed crop, and a growing season.	Monitor stocking and status of regeneration (planted or natural regeneration) using walk-through and standard plot exams which follow R1 procedures. Determine status of non-native plants using monitoring survey form	District Reforestation Specialist
8	Wildlife	Verify maintenance and retention of cavity habitat	Pre- and Post-harvest	Representative sample of units taken to determine retention of cavity habitat.	Wildlife Biologist
9	Noxious Weeds	Noxious weed infestations	Pre-harvest, prior to haul, and following timber sale activities	See ROD Appendix 2, Design Features and Mitigation Measures, for details.	District Weeds Specialist
10	Wildlife	Determine effectiveness of burning to increase browse	1 year after burning	Walk-through survey to determine the species of browse and to what extent burning has stimulated browse.	Wildlife Biologist
11	Wildlife	Ongoing status of closure devices - Gates-EB-Signing	1-2 times a year	Adopt-A-Road - Access Management - Law Enforcement	Access Management
12	Wildlife	Determine effectiveness of planting shrub species for big game.	Post-planting, every year for 5 years.	Review treatment areas to monitor status of shrub planting using walk-through exams.	Wildlife Biologist

Access Management Plan

Appendix 4

GARVER ACCESS MANAGEMENT PLAN*

MAP INDEX #	RD. #	LOCATION	ACTION TO TAKE	TIMING	REASON FOR ACTION
1	5835-Lick Mt.	Jct. Hwy 92	Install double earth barrier	Start of project	Core
2	5841-Upper Sink Cr.	Jct. 757	Install double earth barrier	Start of project	Core
3	5839-Lower Sink Cr.	Jct. Hwy 92	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core
4	5840-Benefield	Jct. 276	Install double earth barrier	After post harvest activities	Core
6	276B-W.Fk.Yaak River B	Jct. 276	Lock gate open	Start of harvest operations	Harvest
7	276B- W.Fk.Yaak River B	MP 1.0	Install double earth barrier	After post harvest activities	Core
8	276A- W.Fk.Yaak River A	Jct. 5857	Lock gate open	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core
9	5840A-Benefield A	Jct. 5840	Remove earth barrier	Start of harvest operations	Harvest
10	276-W.Fk. Yaak River	Jct. 5857	Lock gate closed	Start of helicopter harvest operations in Units #13A,13, 14,15,27,29,30, 34,35	Harvest/HE
11	276- W.Fk. Yaak River	Jct. 5842	Install double earth barrier	After post harvest activities	Core
12	5857C-French Garver C	Jct. 5857	Install double earth barrier	Start of project	Core
13	5859-Woodchuck	Jct. 5857	Lock gate open	Start of harvest operations	Harvest
		Jct. 5857	Install double earth barrier	After post harvest activities	Core
14	5861-Waterloo	Jct. 5857	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core
15	5873-Waper Ridge	Jct. Hwy 92	Lock gate open	Start of harvest operations	Harvest
		Jct. Hwy 92	Lock gate closed	After post harvest activities	HE-ORD
16	5873-Waper Ridge	Past Unit #27	Install gate	Start of harvest operations	HE
		Past Unit #27	Remove gate	When gate @ Jct. 92 & 5873 is closed.	See Map Index #15
17	5882-Lap Cr.	Jct. Hwy 92	Remove earth barrier, install gate, close when activity is not occurring.	Start of harvest operations	Harvest
			Remove gate. Install double earth barrier	After post harvest activities	Core
18	5883-Waper Cr.	Jct. 5882	Remove earth barrier	Start of harvest operations	Harvest
19	5879-Rausch Point	¼ mi. past jct.5886	Remove earth barrier, lock gate closed (closed to public for elk security).	Start of harvest operations	Harvest
20	5879A-Rausch Point A	Jct. 5879	Remove earth barrier	Start of harvest operations	Harvest
21	5879C-Rausch Point C	Jct. 5879	Remove earth barrier	Start of harvest operations	Harvest
22	5879D-Rausch Point D	Jct. 5879	Remove earth barrier	Start of harvest operations	Harvest
23	5879G-Rausch Point G	Jct. 5879	Remove earth barrier	Start of harvest operations	Harvest
24	5886E-Hensley Face E	Jct. 5886	Remove earth barrier	Start of harvest operations	Harvest
			Install gate	After post harvest activities	HE
25	5890-No Name	Jct. 5886	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After harvest activities	Winter range security
27	5856-Hensley Cr.	Jct. 5856F	Access thru gate for harvest operations only	Start of harvest operations	Harvest
28	5854-Upper French	Jct. 5856	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core
29	757A-Koo Koo Cr. Boyd Cr.	Jct. 757	Install double earth barrier	Start of harvest activities in BMU 15	Core
30	5857L-French Garver L	Jct. 5857	Install double earth barrier	Start of harvest activities in BMU 15	Core
31	5846-Packtrail	Jct. 276	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core

Access Management Plan

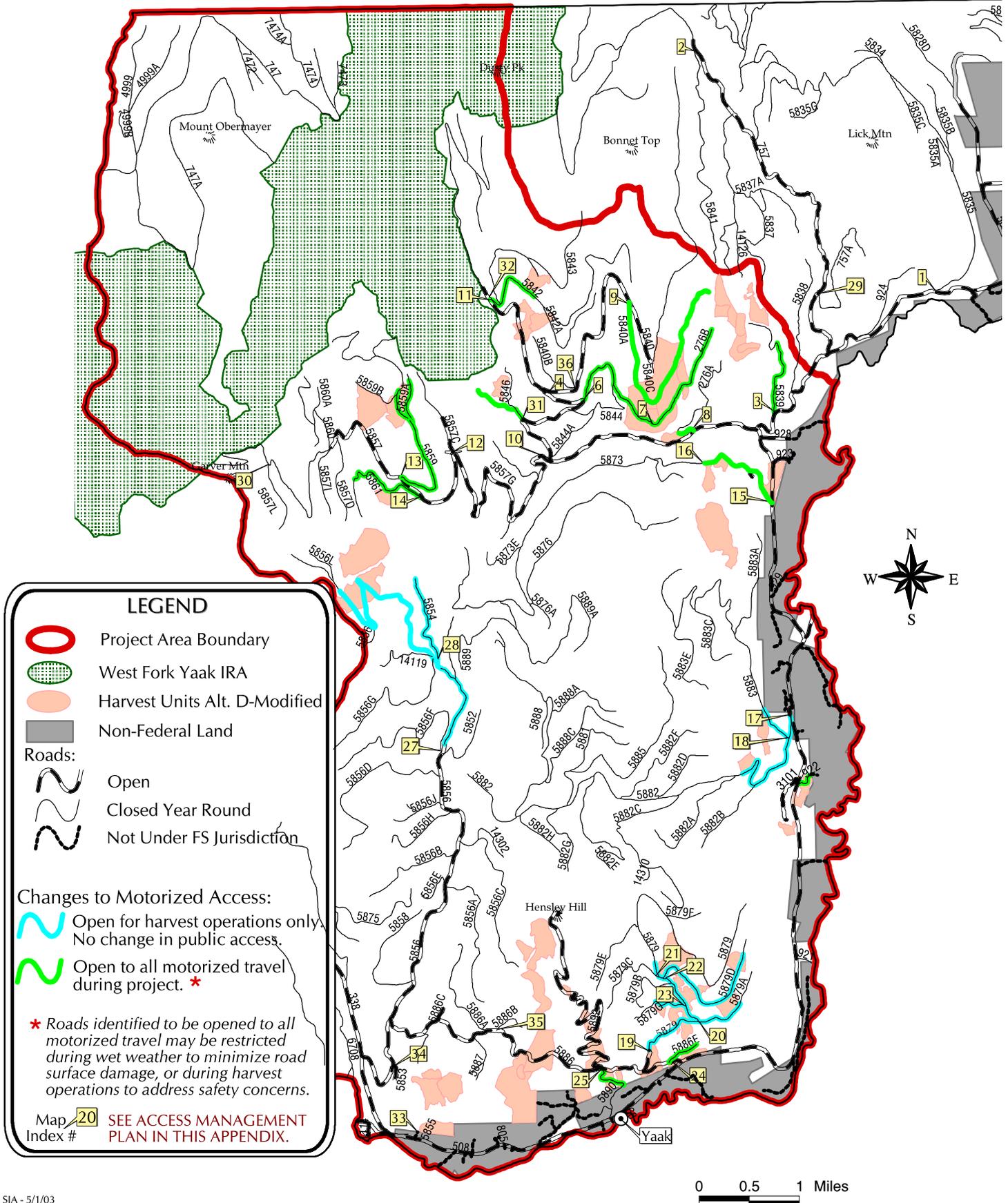
Appendix 4

MAP INDEX #	RD. #	LOCATION	ACTION TO TAKE	TIMING	REASON FOR ACTION
32	5842-Looby	Jct. 276	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Core
33	5855-No Name	Private boundary	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Winter range security
34	5853-No Name	Jct. 5856	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After harvest activities	Winter range security
35	5886B- Hensley Face B	Jct. 5886	Remove earth barrier	Start of harvest operations	Harvest
			Install double earth barrier	After post harvest activities	Winter range security
36	5857-Garver	Jct. 5859	Remove Gate	After post harvest activities	Lookout Access
37	5857-Garver	Jct. Trail 33	Install Gate	After post harvest activities	HE

*An analysis of the transportation network within the analysis area was conducted by district resource specialists. A process was used to determine the most environmentally sound and safe transportation network that is responsive to public needs, resource concerns, and is affordable to maintain. Resource specialists and the decision maker determined that these access management activities are consistent with that analysis.

HE=Grizzly Bear Habitat Effectiveness

Garver Record of Decision ACCESS MANAGEMENT PLAN



GARVER EIS
Changes from Alternative D to Alternative D-Modified

ALT D UNIT #	ALT D ACRES	ALT D-MOD UNIT #	ALT D-MOD ACRES	EXPLANATION FOR CHANGE TO ALTERNATIVE D MODIFIED
1	10	--	--	Dropped unit because of RHCA/logging systems
2	28	3	59	Combined with unit 3, Rx changed to intermediate. Unit contains small openings.
3	33	--	--	See above
4	58	4	44	Area below Rd 5859A dropped because of RHCA/protected plant population
5	34	5	15	Reduced in size because of RHCA/skidding patterns. Moved landing from Rd. 5846a to 5846
6	11	--	--	Unit dropped due to concerns with peak flows in watershed.
7	23	7	21	Acres reduced based on ground verification
8	34	8	25	Acres reduced based on ground verification
		8a	6	Rx changed to regeneration for this portion of Unit 8
10	27	10	24	Rx changed from regeneration to intermediate
13	46	13	31	Acres reduced based on ground verification
13a	10	13a	10	Unit moved ¼ mile to the south to a more suitable location
14	40	14	27	Unit split into Units 14/14a because of steep ground that could not be excavator piled
		14a	13	Moved to the west to more gentle ground
15	65	15	23	Unit reduced in size because the majority of stand met the target BA
15a	9	15a	9	No change
17	19	--	--	Dropped unit because it was identified as undesignated effective old growth
18	26	18	20	Changed the logging system to helicopter because of broken ground
		18a	6	Tractor portion of the proposed Unit 18
19	179	19	14	Unit broken into smaller units – see below
		19a	82	Separated from Unit 19 because of RHCA and skyline ground between. Spot pile slash.
		19b	53	Changed logging system to skyline. Lop & scatter slash.
		19c	20	Changed logging system to helicopter. Yard tops.
		19d	10	Changed logging system to skyline. Yard tops.
20	13	20	5	Acres reduced based on ground verification
23	52	23	52	No change
24	22	--	--	Dropped unit because of RHCA, lack of consistent treatment need and broken ground.
25	25	25	13	Acres reduced based on ground verification
26	47	26	36	Acres reduced based on ground verification
27	35	27	16	Split into 27/27a because of an RHCA/protected plant population
		27a	11	See above
29	88	29	102	Combined units 29 and 30 because Rx identical
30	29	--	--	See above
31	18	31	10	Rx changed to regeneration due to lack of quality leave trees
32	21	32	21	No change
33	21	33	21	Temp road shortened
33a	11	--	--	Dropped unit because RHCAs, concerns with leave tree blow down and slash treatment challenges
33b	9	--	--	Dropped unit because RHCAs, concerns with leave tree blow down and slash treatment challenges
34	135	34a	101	Original unit 34 split into 34a and 34b because of a RHCA
		34b	28	See above
35	123	35	50	East side of the proposed unit dropped because it didn't fit the intermediate Rx. Excavator pile slash rather than yard tops due to landing size limitation.
38	28	38	23	Unit reduced in size due to an RHCA and limited tractor ground
38a	16	38a	16	Winter log
40	21	40	21	Winter log
42	50	42	50	No change
42a	8	42a	8	No change
42b	2	42b	2	Winter log
44	17	44	17	No change
45	66	45	66	No change
46	23	46	12	No winter log restriction
47	21	47	11	Acres reduced based on ground verification
48	19	48	18	Acres reduced based on ground verification
49a	9	49a	7	Acres reduced based on ground verification
49	17	49	13	Acres reduced based on ground verification

Modifications to Alternative D

Appendix 5

ALT D UNIT #	ALT D ACRES	ALT D-MOD UNIT #	ALT D-MOD ACRES	EXPLANATION FOR CHANGE TO ALTERNATIVE D MODIFIED
50	23	50	36	Acres increased based on ground verification
50a	15	50a	10	Acres reduced based on ground verification
50b	5	--	--	Combined with Unit 50a
50c	16	50c	4	Acres reduced based on ground verification
51	14	51	16	Acres increased based on ground verification
52	117	52	117	The helicopter portion will actually be much smaller however, if access through PVT land is obtained the remaining acres may be tractor yarded.
52a	6	52a	6	No change
53	68	53	68	No change
55	120	55	69	See below
		55a	38	55a created because of a different stand condition/Rx. Lop & scatter slash.
56	38	56	38	No change
56a	24	56a	11	Acres reduced based on ground verification
57	49	57	37	Acres reduced based on ground verification
59	28	59	28	No change
60	24	60	24	Winter log
Alt D Total Acres: 2,145		Alt D-Mod Total Acres: 1,744		Alt. D=1,828 Intermediate; 317 Regeneration Alt D-Mod=1,508 Intermediate; 236 Regeneration

Temporary Road Changes: The temporary road access to Unit 33 is reduced to .14 miles, so under Alternative D-Modified the total amount of temporary miles is .83 miles rather than .97 miles in the other action alternatives.

Access Changes to Increase Grizzly Bear Core Area and Maintain Motorized Opportunities: Roads barriered to increase grizzly bear core area from 53% to 55%: Earthen berm on the Benefield Rd. #5840 at the jct. with the West Fork Yaak River Rd. #276. Gated road opened to provide for motorized access: Garver Mtn. Rd. #5857 at the Obermeyer Trail #33 trailhead. The Hensley Cr. Rd. #5856 will remain open to the public to the F spur during and post project (no change from current situation).

Noxious Weed Treatment Changes: The Noxious Weed Treatment Plan identified in the Design Features in DEIS Chapter 2 is further refined as follows (See Garver ROD, Appendix 2):

1. Prior to harvest, Forest Service crews will patrol and spray weeds within 300 feet of Units 4, 8, 7, 15, 15a, 14, 27, 33, 34, 35, and 49. The Forest Service will also spray any weed-infested cut and fill slopes along road segments adjacent to harvest units.

Units receiving ground-based mechanical treatments will be monitored and evaluated for weed introduction from project activities. Units 4, 33, 34, and 35 will be treated if weed infestations are occurring. Treatment of additional unit infestations will be dependent on funding and prioritized based on a risk assessment conducted by the ID Team. This risk assessment is located in the project file.

2. Prior to use, the timber sale purchaser will spray: a) haul roads infested with weeds, b) helicopter landings infested with weeds. Weed populations along the 5861 (access to Unit 33) and 5840A (access to Unit 19) roads will be sprayed the year following reconstruction since these roads are currently overgrown and impassible. The 5840 road system will be monitored following initial treatment, and will be a high priority for repeat spraying with available funding since this area will be in grizzly bear core (inaccessible to motorized access) post project.
3. The timber sale contracts will contain Special Provision C6.351, which requires that all off-road vehicles associated with harvest operations be cleaned prior to entering the sale area. All equipment used in fuels reduction activities must also be washed of all dirt and plant parts prior to use on National Forest lands. Measures outlined in DEIS Appendix D will also be applied.